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FIELD ARTILLERY EXERCISES

1875.

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,, II.—CARBINE AND SWORD DRILL.
,, III.—EQUITATION.
,, IV.—GENERAL INSTRUCTIONS.
,, V.—PARADE.
,, VI.—PRELIMINARY OBSERVATIONS.
,, VII.—FIELD BATTERIES.
,, VIII.—HORSE ARTILLERY.
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By Command of His Royal Highness the Field Marshal Commanding-in-Chief.

W. A. MIDDLETON,
Dep. Adjt.-General.

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DEFINITIONS.

A Rank.—Two or more men in Line.

Single File.—One front rank man, or his covering rear rank man.

A File.—Two men, a front rank man and his covering rear rank man.

Rank and File.—A term meaning strictly all men told off in the ranks, but generally used to denote corporals and privates.

Files.—This term is made use of to denote the strength of the frontage of a body of troops.

Half-Sections.—Two front rank men, or their two covering rear rank men.

Sections.—Four front rank men, or their four covering rear rank men.

Fours.—Eight men abreast. Four front rank and four rear rank.

A Subdivision.—Consists of one gun with its wagon, &c.

A Division.—Two guns with wagons, &c.

A Half-Battery.—Three guns with wagons, &c.

A Battery.—Six guns with wagons, spare carriages, &c.

A Brigade.—Consists of two or more batteries. When more than three batteries are present, it is formed into Brigade Divisions of two batteries each.

A Division of Artillery.—Consists of two or more brigades.

A Line.—Bodies of Troops placed side by side.

A Column.—Bodies of Troops placed behind each other. The term Column or Open Column implies that such amount of distance (between each body) is taken, as that the length, together with the breadth of the Column, shall represent the frontage when wheeled into line.

Half Column.—A column closed up to half the distance laid down for Column.

Quarter Column.—A column closed up with four yards clear between each body.

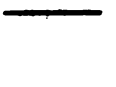
Column of Route.—A column formed with a front of only one carriage, and applies to line of march.

Double Column.—A formation of two columns.

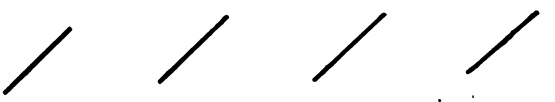
A Line of Columns.—A line of two or more Batteries, Half-batteries, or Divisions in quarter column.

Mass of Columns.—A column of two or more Brigades, &c. in quarter column.

Direct Echellon.—Is when the Line is broken into several parts, moving direct to the Front or Rear, in succession, thus:—



Oblique Echellon.—Is when the Line is broken into several parts by wheels from Line or Column, less than the quarter circle, so as to be oblique to the former front, and parallel with each other, thus:—



Alignment.—The Line between two given points, or in prolongation of two points given as a base.

New Alignment.—The Line on which the Column is marching, after it has wheeled, or changed its direction.

Formation.—The act of a body placing itself in position.

Deployment.—The formation of Line from Column.

Flank.—The outer man of any body of men. Also the direction to either hand of a body moving.

Pivot.—The Flank man on whom a body wheels.

Fixed Pivot.—When the pivot man during the wheel turns upon his own ground.

Moveable Pivot.—When during the wheel the pivot man describes a portion of a circle.

Pivot Flank.—In column of Batteries, Half-batteries, &c., that Flank to which the batteries are working, and on which the Majors or Officers commanding are posted.

Outer Flank.—The opposite flank to the pivot.

Point of Formation.—A fixed object or marker, on which a formation commences.

Base.—Two men placed at a distance apart, on which depends the proper frontage of a line, or covering of a column "Alignment Base" is the term used in the former case; "Covering Base" in the latter.

A "Base" Body.—Is that on which a formation is made, or when in movement, that on which the dressing is, thus—"Base Battery:" "Base Division."

Fixed Base.—Standing base, on which the formation is made.

Moving Base.—The base on which the dressing depends in movement.

Extent of Frontage.—The distance between the outer flank men of any formed body.

Depth.—Distance from Front to Rear.

Distances.—The Space between bodies from Front to Rear.

Intervals.—The Space between bodies from side to side.

A Horse's Length.—A term of measurement (8 feet).

Change of Front.—The throwing forward or back of either flank of a body on a fixed Base.

Change of Position.—A Line moving and re-forming altogether off its ground, either to front or rear; either square to the former Front, or with a flank thrown forward.

Close Order.—The ordinary distance between Front and Rear Rank.

Order.—The increased distance taken by the Rear Rank on occasions of Parade.

Dressing.—The act of correctly aligning on a base.

When the term "*Dress*" is used, it is the correction of an imperfect dressing; when "*Dress up,*" it is for a Rank to move up to and dress by another formed line.

Covering.—The act of a body placing itself correctly in rear of another.

Oblique March.—Gaining ground to Front and Flank simultaneously.

Flank March.—Gaining ground to a Flank only.

Taking Ground.—Moving to a flank, each carriage wheeling independently, at right angles to its previous position.

Wheeling or Shoulders Forward.—A body bringing forward a Flank on a fixed or moveable pivot.

"*Right*" or "*Left.*"—These terms are used to complete the wheel to the half or quarter circle, after having wheeled "*Half*" or "*Quarter*" "*Right*" or "*Left.*"

Paces.—The denomination of different degrees of speed, also a measurement of distance.

Markers.—Non-commissioned Officers employed to give bases, and mark points.

Body of Direction.—Is the body on which the dressing or direction of the rest depends.

Alarm Post.—The place (previously indicated) where troops assemble when ordered to turn out suddenly.

Parade Movements.—The movements laid down for the inspection of a regiment or body of troops.

Parade Line.—The Line of original Formation, from which the Reviewing Officer is received and saluted.

Passing Line.—That opposite the Parade Line; the centre of which is the Reviewing Officer's Post.

MANUAL OF FIELD ARTILLERY EXERCISES.

PART I.

RECRUIT OR SQUAD DRILL.

GENERAL RULES.

I.

Instruction of the Recruit. — The Instructors must be clear, firm, and concise in giving their directions. They must allow for the different capacities of the recruits, and be patient where endeavour and good-will are apparent.

Recruits should fully comprehend one part of their drill before they proceed to another. When first taught their positions, they should be properly placed by the instructor: when more advanced, they should not be touched, but taught to correct themselves when admonished. They should not be kept too long at any one part of their exercise. Marching without arms should be intermixed with the carbine instruction.

II.

Duration of Drills, &c.—Short and frequent drills are preferable to long lessons, which exhaust the attention both of the instructor and recruit. The recruits should be moved on progressively from squad to squad according to their merit, so that the quick, intelligent soldier may not be kept back by men of inferior capacity. To arrive at the first squad should be made an object of ambition to the young soldier.

III.

Mutual Instruction.—A system of mutual instruction will be practised amongst recruits; it gives the young soldier additional interest in his drill, and prepares him for the duties of a non-commissioned officer. Recruits should, in turn, be called out to put their squad through the exercises which have been practised, and encouraged to correct any error they may observe. Lists of those who show talent for imparting instruction should be kept for reference.

IV.

Words of Command—Every command must be loud, and distinctly pronounced, so as to be heard by all concerned.

Every command that consists of one word must be preceded by a caution: the caution, or cautionary part of a command, must be given slowly and distinctly; the last or executive part, which, in general, should consist of only one word or syllable, must be given sharply and quickly; as *Battery—Halt: Half Right—Turn.* A pause of slow time will invariably be made between the caution, or cautionary part of a command, and the executive word.

The words given in the *Extension Motions* and *Balance Step* (Sections 5, 12) must be given sharply, or slowly and smoothly, as the nature of the motion may require.

When the last word of a caution is the signal for any preparatory movement, it will be given as an executive word, and separated from the rest of the command by a pause of slow time; thus, *Right—Form. Quick—March,* as though there were two separate commands, each with its caution and executive word.

When the men are in motion, executive words must be completed as they are commencing the pace which will bring them to the spot on which the command has to be executed. The cautionary part of the word must, therefore, be commenced accordingly.

Officers and non-commissioned officers should frequently be practised in giving words of command. It will be found a good plan to practise several officers, or non-commissioned officers, together in giving words of command, first in succession, then simultaneously; the time and pitch being first given by the instructor.

RECRUIT OR SQUAD DRILL, WITH INTERVALS.

A few men will be placed in line (that is, side by side) at arm's length apart; while so formed, they will be termed a "Squad with Intervals."

If necessary the squad may consist of two such lines of men; in which case the men in the second line will cover the intervals between the men in the first, so that in marching they may take their own points, as directed in Section 11.

Recruits should in the first instance be placed by the instructor without any dressing; when they have learned to dress, as directed in Section 23, they should be taught to fall in as above described, and then to dress and to correct their intervals: after they have been instructed as far as Section 23, they may fall in in single rank, and then, if required to drill with intervals, be moved as directed in Section 24.

Recruits will, if possible, be instructed singly as far as Section 23.

SECTION 1.—POSITION OF THE SOLDIER.

The exact squareness of the shoulders and body to the front is the first and great principle of the position of a soldier. The heels must be in a line and closed; the knees straight; the toes turned out, so that the feet may form an angle of 45 degrees; the arms hanging easily from the shoulder, the hand open, thumb to the front and close to the forefinger, fingers lightly touching the thigh: the hips rather drawn back, and the breast advanced, but without constraint; the body straight and inclining forward, so that the weight of it may bear principally on the fore part of the feet; the head erect, but not thrown back, the chin slightly drawn in, and the eyes looking straight to the front.

When the soldier falls in for instruction, he will be taught to place himself in the position above described.

N.B.—The words in the margin printed in *italics*, are the commands to be given by the instructor.

SECTION 2.—STANDING AT EASE.

Soldiers will first be taught the motions of standing at ease by Numbers, then judging the time.

1. *By Numbers.*

Caution,—*Stand at Ease by Numbers.*

One. On the word *One*, raise the arms from the elbows, left hand in front of the centre of the body, as high as the waist, palm upwards; the right hand as high as the right breast, palm to the left front; both thumbs separated from the fingers, and the elbows close to the sides.

On the word *Two*, strike the palm of the right hand on that of the left, drop

Two. — the arms to the full extent, keeping the hands together, and passing the right hand over the back of the left as they fall; at the same time draw back the right foot six inches, and slightly bend the left knee.

When the motions are completed, the arms must hang loosely and easily, the fingers pointing towards the ground, the right thumb lightly held between the thumb and palm of the left hand; the body must incline forward, the weight being on the right leg, and the whole attitude without constraint.

Squad–Attention. — On the word *Attention*, spring up to the position described in Section I,

2. *Judging the Time.*

Caution,—*Stand at Ease, judging the Time.*

Stand at–Ease. — On the word *Ease*, go through the motions described in the standing at ease by Numbers, distinctly but smartly, and without any pause between them.

Squad–Attention. — As before.

If the command *Stand at–Ease* is followed by the word *Stand Easy*, the men will be permitted to move their limbs, but without quitting their ground, so that on coming to *Attention* no one shall have materially lost his dressing in line. If men are required to keep their dressing accurately, they should be cautioned not to move their left feet.

On the word *Squad* being given to men standing easy, every soldier will at once assume the position of standing at ease.

SECTION 3.—DRESSING A SQUAD WITH INTERVALS.

Eyes–Right. — On the words *Eyes-Right*, the eyes will be directed to the right, the head being slightly turned in that direction.

Dress. — On the word *Dress*, each soldier, except the right-hand man, will extend his right arm, palm of the hand upwards, nails touching the shoulder of the man on his right; at the same time he will take up his dressing in line by moving, with short quick steps, till he is just able to

distinguish the lower part of the face of the second man beyond him; care must be taken that he carries his body backward or forward with the feet, keeping his shoulders perfectly square in their original position.

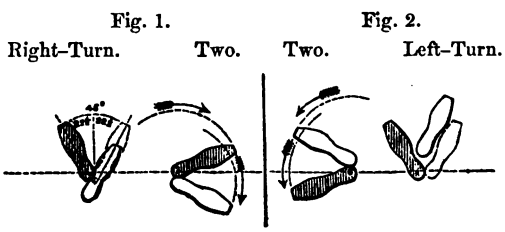
Eyes–Front. On the words *Eyes-Front,* the head and eyes will be turned to the front, the arm dropped, and the position of the soldier, as described in Section 1, resumed.

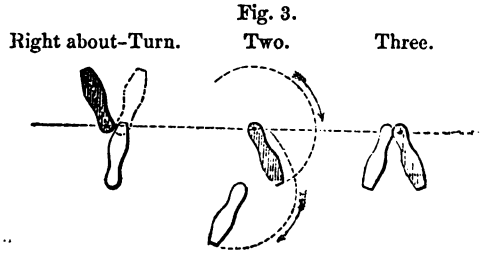
Dressing by the left will be practised in like manner.

SECTION 4.—TURNINGS.—PLATE I.

In going through the turnings, the left heel must never quit the ground; but the soldier must turn on it as on a pivot, the right foot being drawn back to turn the body to the right, and carried forward to turn it to the left; the body must incline forward, the knees being kept straight.

PLATE I.—TURNINGS.





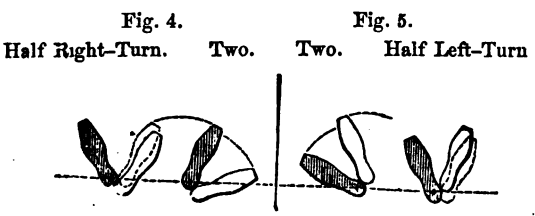
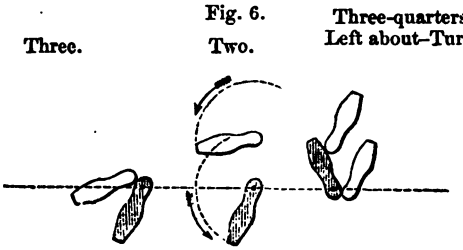


Fig. 6.



In the first of all the following motions, the foot is to be carried back, or brought forward, without a jerk, the movement being from the hip; so that the body may be kept perfectly steady until it commences to turn.

Right–Turn. On the word *Turn*, place the hollow of the right foot smartly against the left heel, keeping the shoulders square to the front.

Two. On the word *Two*, raise the toes, and turn a quarter circle to the right on both heels, which must be pressed together.

Left–Turn. On the word *Turn*, place the right heel against the hollow of the left foot, keeping the shoulders square to the front.

Two. On the word *Two*, raise the toes, and turn a quarter circle to the left on both heels, which must be pressed together.

Right about–Turn. On the word *Turn*, place the ball of the right toe against the left heel, keeping the shoulders square to the front.

Two. On the word *Two*, raise the toes, and turn to the right about on both heels.

Three. On the word *Three*, bring the right foot smartly back in a line with the left.

Left about–Turn. On the word *Turn*, place the right heel against the ball of the left toe, keeping the shoulders square to the front.

Two. On the word *Two*, raise the toes, and turn to the left about on both heels.

Three. On the word *Three*, bring up the right foot smartly in a line with the left.

Half–Right (or *Left*)*–Turn.* On the word *Turn*, draw back (or advance) the right foot one inch.

Two. On the word *Two*, raise the toes and turn half right (or left) on both heels.

Three-quarters-Right (or *Left*) *about–Turn. Two. Three.* — Make a three-quarters turn in the given direction in the same manner as in turning about.

Squad–Front. — After any of the foregoing turnings, the word *Front* may be given, on which the whole will turn, as accurately as possible, to their former front. When the soldier has previously turned about, he will always front by the right about. But if he has turned to the three-quarters right about, he will front by the three-quarters left about; and vice versâ.

At squad drill with intervals, the turnings will always be done by Numbers, except when the word *Front* is given, in which case the soldier will judge the time, which must be a pause of slow time after each motion.

SECTION 5.—EXTENSION MOTIONS.

In order to open his chest, and give freedom to his muscles, the soldier will be practised in the following extension motions.

Men formed in squads with intervals will be turned a half turn to the right, before commencing these practices.

Caution,—*First Practice.*

One. — On the word *One*, bring the hands, at the full extent of the arms, to the front, close to the body, knuckles downwards, till the fingers meet at the points; then raise them in a circular direction over the head, the ends of the fingers still touching and pointing downwards so as to touch the forage cap, thumbs pointing to the rear, elbows pressed back, shoulders kept down.

Two. — On the word *Two*, throw the hands up, extending the arms smartly upwards, palms of the hands inwards; then force them obliquely back, and gradully let them fall to the position of attention, elevating the neck and chest as much as possible.

Three. On the word *Three*, raise the arms outwards from the sides without bending the elbow, pressing the shoulders back, until the hands meet above the head, palms to the front, fingers pointing upwards, thumbs locked, left thumb in front.

Four. On the word *Four*, bend over until the hands touch the feet, keeping the arms and knees straight; after a slight pause, raise the body gradually, bring the arms to the sides, and resume the position of attention.

N.B.—The foregoing motions are to be done slowly, so that the muscles may be exerted throughout.

Caution,—*Second Practice.*

One. On the word *One*, raise the hands in front of the body, at the full extent of the arms, and in line with the mouth, palms meeting but without noise, thumbs close to the forefingers.

Two. On the word *Two*, separate the hands smartly, throwing them well back, slanting downwards; at the same time raise the body on the fore part of the feet.

One. On the word *One*, bring the arms forward to the position above described, and

Two. so on.

Three. On the word *Three*, smartly resume the position of attention.

In this practice, the second motion may be continued without repeating the words *One, Two*, by giving the order *Continue the Motion;* the squad will then take the time from the right-hand man: on the word *Steady*, the men will remain at the second position, and on the word *Three* they will resume the position of attention.

Caution,—*Third Practice.*

The squad will make a second half turn to the right before commencing the third practice.

One. On the word *One*, raise the hands, with the fists clenched, in front of the body, at the full extent of the arms, and in line with the mouth, thumbs upwards, fingers touching.

Two. On the word *Two*, separate the hands smartly, throwing the arms back in line with the shoulders, back of the hand downwards.

Three. On the word *Three*, swing the arms round as quickly as possible from front to rear.

Steady. On the word *Steady*, resume the second position.

Four. On the word *Four*, let the arms fall smartly to the position of attention.

This practice should also be performed with clubs.

SECTION 6.—CLUB EXERCISE.

In order to supple the recruit, open his chest, and give freedom to the muscles, he should be exercised in the use of a pair of wooden clubs, two feet in length, rounded and shaped to the hand, and their weight in the increasing proportion of seven, nine, and eleven pound each, in order that they may be used according to the strength of the men, and their progress in the exercise.

Placed in the position of *Attention*, with a club in each hand, pointing downwards; the hands, arms, and shoulders being perfectly easy and supple, without constraint, in their natural position.

Caution,—*First Practice.*

One. On the word *One*, bring the right arm slowly across, and just clear of the body, the end of the club pointing downwards, the knuckles turning inwards, and the elbow well raised; continue the motion, by carrying the hand over the head, on clearing which, the hand and club should gradually fall to the rear until they resume their position along the right thigh.

Two. On the word *Two*, perform the same motions with the left arm and club.

Three. On the word *Three*, the same motions will be performed alternately until the order *Halt*, when the position of attention will be resumed.

The preceding practice may be done either to the right or left, by the word of command *Right* or *Left Practice*. On the former command the left shoulder is brought as far as possible to the front, so as to throw back the right one,

keeping the head well turned, and looking to the right rear; the respective motions are then continued by the numbers, *One*, *Two*, and *Three*. The *Left Practice* is performed in the same manner on the left.

Caution,—*Second Practice.*

One. On the word *One*, by combining the motions of the First Practice, both hands are raised at the same time, and as the arms cross to the front (having the right one uppermost), continue the motion so as to raise them over the head, and as they clear each other in doing so (by the left arm rising over the right), both hands gradually meet and fall to the rear, resuming the position of *Attention*.

Two. On the word *Two*, the same, commencing with the left arm uppermost.

In the latter part of this practice, when the hands have reached the back of the neck, the clubs may be raised to the full extent of the arms, keeping them together; then lowered again, and the same motions repeated, or the clubs brought down as usual; the heels may also rise and sink with this motion of the arms.

Three. On the word *Three*, the two preceding motions (*One* and *Two*) alternately, without word of command, until ordered to *Halt*, when the position of *Attention* is resumed.

Caution,—*Third Practice.*

Carry Clubs. Raise the clubs, well balanced and perpendicular, to the front of the breast, the hands about six inches apart, as high as the elbows, which should be well kept back, and the chest advanced.

One. On the word *One*, raise the right hand (the left remaining steady) into the hollow of the left shoulder; then by a quick turn of the wrist and rise of the arm, let the end of the club drop to the rear, continuing its motion round the head, when by the timely lowering of the elbow, the positoin is resumed.

Two. On the word *Two*, the same motion with the left arm, the right remaining steady to the front.

Three. On the word *Three*, the two preceding motions (*One* and *Two*) alternately, without word of command, until ordered to *Halt*, when the hands return to the position of *Carry Clubs*.

Stand at Ease. Lower the clubs as in the first position, and draw the right leg back, as usual, in *Standing at Ease*.

The object of all these motions is to supple the joints and strengthen the muscles, without constraining them by any forced positions, and great care should be taken that the position of *Attention* is strictly observed, having the chest forward and the head well raised from the lower part of the neck; in fact, the head rises and the shoulders sink, in proportion as the bones of the chest are raised.

The easy and supple management of the clubs depends chiefly upon the timely turning of the wrists, and having the clubs well balanced; and by keeping an equal motion (either slow or quick, as may be ordered), without grasping them too tight, as otherwise the muscles become stiff, and the motions are constrained.

SECTION 7.—SALUTING.—PLATE II.

Soldiers will be practised in saluting, first by Numbers, then judging the Time; being turned to the right for the right-hand salute, to the left for the left-hand salute.

PLATE II.

Saluting.

Caution,—*Right-hand Salute, by Numbers.*

One. On the word *One*, bring the right hand smartly, but with a circular motion, to the head, palm to the front, point of the forefinger one inch above the right eye, thumb close to the forefinger; elbow in line, and nearly square, with the shoulder; at the same time, slightly turn the head to the left.

Two. On the word *Two*, let the arm fall to the side, and turn the head to the front.

Caution,—*Right-hand Salute, judging the Time.*

Right-hand Salute. On the word *Salute*, go through the two motions described in *One* and *Two*.

Soldiers will be taught to salute with the left hand in like manner.

Soldiers, if standing still when an officer passes, will turn towards him, come to attention, and salute; if sitting, they will rise, stand at attention, and salute. When a soldier addresses an officer, he will salute, and halt two paces from him. When walking, soldiers will salute an officer as they pass him, commencing their salute four paces before they come up to him; they should therefore be practised in marching, two or three together, round the drill ground, saluting points placed on either side of them, care being taken that they always salute with the hand furthest from the point saluted: when several men are together, the man nearest to that point will give the time.

Soldiers will invariably salute anybody they know to be an officer, whether he is in uniform or not.

A soldier, with his sword undrawn, passing an officer, always salutes with his right hand.

MARCHING.

SECTION 8.—LENGTH OF PACE.

In slow or quick time the length of a pace is 30 inches, except in "stepping out," when it is 33 inches, and in "stepping short," when it is 21.

In "double time" the length of a pace is 33 inches.

The length of the side step is 12 inches.

SECTION 9.—CADENCE.

In slow time, 75 paces are taken in a minute. In quick time, 116 paces, making 96 yards 2 feet in a minute and 3 miles 520 yards in an hour. In double time, 165 paces, making 151 yards 9 inches in a minute and 5 miles 275 yards in an hour.

SECTION 10.—THE PLUMMET AND PACE STICK.

In order to ascertain whether the time is beaten correctly, a pendulum or a "Plummet" must be used. A variety of pendulums have been constructed for this purpose. When no pendulum is at hand, a plummet can readily be made by suspending a spherical ball of metal by a string, the length of which, measured from the point of suspension to the centre of the ball, must be as follows for the different degrees of march:—

	Inches.	Hundredths.
Slow time - - -	- 24	· 96
Quick - - -	- 10	· 15
Double - - -	- 5	· 18

Thus arranged, the plummet will swing the exact time required. String being liable to stretch, the correctness of the plummet should frequently be tested by reference to a watch.

The length of pace in marching will be corrected with the pace stick, the accuracy of which should occasionally be tested by measurement.

SECTION 11.—POSITION IN MARCHING.

In marching, the soldier must maintain the position of the head and body as directed in Section 1. He must be well balanced on his limbs. His arms and hands must be kept steady by his side; care being taken that the hand does not partake of the movement of the leg. The movement of the leg must spring from the haunch, and be free and natural.

Both knees must be kept straight, except while the leg is being carried from the rear to the front, when the knee must necessarily be a little bent, to enable the foot to clear the ground. The foot must be carried straight to the front, and, without being drawn back, placed softly on the ground, so as not to jerk or shake the body; the toes turned out at the same angle as when halted.

Although several men may be drilled together in a squad with intervals, they must act independently and precisely as if they were being instructed singly. Each soldier must be taught to march in a straight line, and to take a correct pace, both as regards length and cadence, without reference to the other men of the squad.

Before the squad is put in motion, the instructor will take care that the men are square individually and in correct line with each other. Each soldier must be taught to take

up a straight line to his front, by first looking down the centre of his body between his feet, then fixing his eyes upon some object on the ground straight to his front at a distance of about 100 yards; he will then observe some nearer point in the same straight line, such as a stone, tuft of grass, or other casual object, about 50 yards distant.

N.B.—Special care must be taken that this is done by the movement of the eyes only, and that the head is still kept erect.

SECTION 12.—BALANCE STEP.

The object of the balance step is to teach the soldier the free movement of his legs, preserving at the same time perfect squareness of shoulders, and steadiness of body; no labour must be spared to attain this object, which forms the very foundation of correct marching. The instructor must be careful that the soldier keeps his body well forward, and his shoulders perfectly square, during these motions.

1. *Without advancing.*

Caution,—*Balance Step, commencing with the Left Foot.*

Front. — On the word *Front*, the left foot will be raised from the ground by a slight bend of the knee, and carried gently to the front, without a jerk, the knee being gradually straightened as the foot is carried forward; the foot to be turned out at the same angle as when halted, the sole parallel to and clear of the ground, the heel just in advance of the line of the right toe.

Rear. — On the word *Rear*, given when the body is steady, the left foot will be brought gently back without a jerk, till the toe is in line with the right heel, clear of the ground; the left knee to be a little bent.

Front. Rear. — When steady, the words *Front* and *Rear* will be repeated several times, and the motions performed as above described.

Halt. — On the word *Halt*, which should always be given when the moving foot is in rear, that foot will be brought to the ground in a line with the other.

The instructor will afterwards make the soldier balance upon the left foot, carrying the right foot forward and backward.

Standing on one leg and swinging the other backward and forward without constraint, is an excellent practice.

2. *Advancing.*

Caution,—*Balance Step, advancing on the word "Forward."*

Front. — On the word *Front*, the left foot will be carried to the front, as described in No. 1.

Forward. — As soon as the men are steady in the above position, the word *Forward* will be given, on which the left foot will be brought to the ground at 30 inches distance from heel to heel, toes turned out at the same angle as when halted; and the right foot will immediately be raised and held extended to the rear, toe in line with the left heel, the right knee to be slightly bent. Great care must be taken that the toes remain throughout at the proper angle; that the body accompanies the leg, and that the inside of the heel is placed on the imaginary straight line that passes through the points on which the soldier is marching; that the body remains straight, but inclining forward; that the head is erect, and turned neither to the right nor left.

Front. — On the word *Front*, the right foot will be brought forward; and so on alternately.

Halt. — On the word *Halt*, which should always be given when the moving foot is to the front, that foot will complete its pace, and the rear foot will be brought up in line with it.

SECTION 13.—THE SLOW MARCH.

The three most important objects in this part of the drill are cadence, length of pace, and direction.

Slow-March. — The time having been given on the drum, on the word *March*, the left foot will be carried 30 inches to the front, as directed in Section 10; the right foot will then be carried forward in like manner, and so on, alternately.

The soldier must be thoroughly instructed in this step, as an essential preparation for arriving at accuracy in the paces of greater celerity.

SECTION 14.—THE HALT.

Squad–Halt. { On the word *Halt,* the moving foot will complete its pace, and the rear foot be brought up in line with it.

It is a general rule that after the word *Halt,* the men, whatever their position, will stand perfectly steady, unless ordered to *Dress.*

SECTION 15.—STEPPING OUT.

Step–Out. { When marching in slow time, on the words *Step–Out,* the soldier will lengthen his pace to 33 inches by leaning forward a little, but without altering the cadence.

This step is used when a slight increase of speed, without an alteration of cadence, is required; on the words *Slow-Step,* the pace of 30 inches will be resumed.

SECTION 16.—STEPPING SHORT.

Step–Short. { On the words *Step–Short,* the foot advancing will finish its pace, and afterwards each soldier will take paces of 21 inches until the word *Forward* is given, when the usual pace of 30 inches will be resumed.

This step is used when a slight check is required.

SECTION 17.—MARKING TIME.

Mark–Time. { On the words *Mark-Time,* the foot then advancing will complete its pace, after which the cadence will be continued, without advancing, by raising each foot alternately about three inches from the ground, keeping the body steady; on the word *Forward,* the usual pace of 30 inches will be resumed.

From the halt, the word of command will be *Slow. Mark–Time.*

SECTION 18.—STEPPING BACK.

Step Back Slow–March. — *Halt.*

In stepping back, the pace will be 30 inches. Soldiers must be taught to move straight to the rear, preserving their shoulders square to the front and their bodies erect. On the word *Halt*, the foot in front will be brought back square with the other.

A few paces only of the step back can be necessary at a time.

SECTION 19.—CHANGING FEET.

Change–Feet.

To change feet in marching, the advancing foot will complete its pace, and the ball of the rear foot will be brought up quickly to the heel of the advanced one, which will instantly make another step forward, so that the cadence will not be lost, in fact two successive steps will be taken with the same foot.

This may be required when any part of a battalion, or a single soldier, is stepping with a different foot from the rest.

SECTION 20.—THE QUICK MARCH.

The cadence of the slow march having become perfectly familiar to the soldier, he will be taught to march in quick time.

Quick–March.

On the word *March*, the squad will step off together with the left foot, observing the rules given in Section 11.

When a soldier is perfectly grounded in marching in quick time, all the alterations of step, and the marking time, and changing feet, laid down for the slow march will be practised in quick time.

SECTION 21.—THE DOUBLE MARCH.

Double–March.

On the word *March*, the men will step off together with the left foot; at the same time raising their hands as high as the waist, carrying back the elbows and clenching the fists, the flat part of the arm to the side; the head to be kept erect, and the shoulders square to the front; the knees being more bent, and the body more advanced, than in the other marches. The instructor will be careful to habituate the soldier to the pace of 33 inches.

Squad–Halt. As in Section 14, at the same time dropping the hands and extending the fingers.

The soldier will be taught to mark time in the double cadence in the same manner as in the slow and quick.

SECTION 22.—THE SIDE OR CLOSING STEP.

Soldiers will first be taught the side step by Numbers, then judging the Time.

1. *By Numbers.*

Caution,—*Right Close, by Numbers.*

One.	On the word *One*, the right foot will be carried 12 inches to the right, the shoulders and face being kept perfectly square to the front, and the knees straight.
Two.	On the word *Two*, the left foot will be closed smartly to the right foot, heels touching.
One.	The word *One* being repeated, the right foot will be carried on 12 inches as before described, and so on.
Squad–Halt.	When the word *Halt* is given, the left foot will be closed to the right as on the word *Two*.

2. *Judging the Time.*

Caution,—*Right Close, judging the Time.*

Right Close, Quick–March.	On the word *March*, each man will carry his right foot 12 inches direct to the right, and instantly close his left foot to it, thus completing the pace; he will proceed to take the next pace in the same manner: shoulders to be kept square, knees not bent, unless on rough or broken ground. The direction must be kept in a straight line to the flank, neither inclining to the front nor rear.
Squad–Halt.	On the word *Halt*, the men will complete the pace they are taking, and remain steady.

Soldiers will be practised in closing to the left by Numbers, and judging the Time, in like manner.

Soldiers will also be practised in taking any given number of paces to either flank, and then halting without word of

command; the command to be given thus, *Three paces Right Close, Quick–March.*

SECTION 23.—TURNING WHEN ON THE MARCH.

Soldiers will be practised in turning to the right or left, in making a half turn to the right or left, and in turning to the right or left about, on the march.

Right–Turn. 1. *Turning to the Right, and then to the Front.*—On the word *Turn*, which should be given as the left foot is coming to the ground, each soldier will turn in the named direction, and move on at once, without checking his pace.

Front–Turn. On the word *Turn*, which should be given as the right foot is coming to the ground, each soldier will turn again to the front, and move on without checking his pace.

Left–Turn. 2. *Turning to the Left, and then to the Front.*—Soldiers will turn to the left in like manner, the word *Turn* being given as the right foot is coming to the ground; after which they will turn to the front,

Front–Turn. the word *Turn* being given as the left foot is coming to the ground.

A soldier will always turn to the right on the left foot; and to the left on the right foot. If the word *Turn* is not given as the proper foot is coming to the ground, the soldier will move on one pace more and then turn.

3. *Making a Half Turn to the Right, or Left.*—Soldiers will also be practised in making a half turn to the right or left, and then moving on (without checking their pace) in a diagonal direction, taking up fresh points, at once, to march on.

4. *Turning to the Right, or Left, about.*—Soldiers will also be taught to turn about on the march, which must be done by each man on his own ground, in three paces, without losing the cadence. Having completed the turn about, the soldier will at once move forward, the fourth pace being a full pace as before.

SQUAD DRILL, IN SINGLE RANK.

SECTION 24.—FORMATION OF THE SQUAD IN SINGLE RANK.

At this stage of the drill, a few soldiers will be formed in single rank without intervals, that is, nearly touching each other. Each man is allowed a space of 24 inches.

The right-hand or left-hand man being first placed, the remainder will fall in in line one after the other, closing lightly towards him, turning the elbow slightly outwards. Soldiers must be carefully instructed in the "Touch," as, in this formation, it is the principal guide when marching. Each man when properly in line, should be able to feel his right or left hand man at the elbow; the body must be preserved in the position described in Section 1.

When a squad in single rank is required to drill with intervals, the instructor will direct the odd numbers to take one pace forward, the even numbers to step back one pace.

SECTION 25.—DRESSING WHEN HALTED.

Soldiers will first be taught to dress man by man, then together.

In dressing, each soldier will glance towards the flank to which he is ordered to dress, with a slight turn of the head, as directed in Section 3: he must carry his body backward or forward with the feet, moving to his dressing with short quick steps; bending backward or forward must be avoided; his shoulders must be kept perfectly square, and the position of the soldier, as described in the preceding Section, retained throughout.

Two Men on the right and one on the left, a pace and a half to the Front.

Slow-March.

Dressing Man by Man.—Preparatory to teaching a squad to dress by the right, the instructor will order the two men on the right, and one on the left, to take a pace and a half to the front; having completed his pace and a half, the right-hand man will take four side paces to his right; and the three men will then become points for dressing.

The instructor, having ascertained that the points are in line, will order his squad to dress up man by man. The third man from the right will take one pace to his front with the left foot and shuffle up

Man by Man, Eyes Right— Dress up. — into line in the manner already described: as soon as he is steady, the next man will proceed in like manner, and so on to the left. The faces of the men, not their breasts or feet, are the line of dressing. Each man is to be able just to distinguish the lower part of the face of the second man beyond him.

Eyes–Front. — When the instructor is satisfied that the line is correct, he will give the words *Eyes–Front*, on which the men will turn their heads and eyes to the front, and the right-hand man will close on the squad.

In like manner the squad must be taught to dress up, man by man, by the left; also to dress back, man by man, by the right and left.

Dressing together. — The men must next be taught to dress forward and backward, taking the pace together, but shuffling up or back in succession, the same points being given as in dressing man by man. The words of command will be *Squad, Eyes Right* (or *Left*)—*Dress Up*, or *Eyes Right* (or *Left*)—*Dress Back.*

Dressing without Points.—When soldiers are on the alignment they have to occupy, and their dressing is simply to be corrected, the words *Eyes Right* (or *Left*)—*Dress*, or after the word *Halt*, the word *Dress* only, will be given, on which they will shuffle up or back to their places successively, commencing with the man on the flank from which they are dressed.

When no man is placed for that purpose, the instructor should invariably fix upon some casual object on which to dress his line.

It will be found most useful to accustom men to dress on an alignment not parallel or perpendicular, but oblique, to any well-defined adjacent line, such as the side of a square parade ground.

SECTION 26.—TURNINGS.

The soldier will next practise in single rank, judging the Time, the turnings he has been taught by numbers.

Men are never unnecessarily to stand turned to the rear.

SECTION 27.—MARCHING TO THE FRONT AND REAR.

The soldier will next practise in single rank the different marches and varieties of step which he has learned singly,

or in squad with intervals; the same general rules being observed.

Before a squad is ordered to march, the directing flank must be indicated by the caution, *Eyes Right*, or *Eyes Left*.

During the march, care must be taken that neither the head nor the eyes are ever turned towards either flank; that the dressing is kept by the touch; and that the shoulders are kept perfectly square, and the body steady.

The squad will first be taught to march straight to the front, both by the right and left, in slow and quick time; it will then be practised in all the varieties of step, and in marking time, in both cadences; after which it will be exercised in the double time.

The soldier will be practised in changing the pace, without halting, from slow to quick, and from quick to slow time; also from quick to double, and from double to quick: in the case last mentioned, on the word *Quick*, the arms will be dropped and the fingers extended.

In changing the pace, the executive word *Slow*, *Quick*, or *Double* will be preceded by the caution *Break into Slow* (*Quick* or *Double*)–*Time*.

The instructor should occasionally remain halted in rear of the man on the directing flank; and, by fixing his eyes on some distant object, ascertain if the squad is marching straight to its front.

When a soldier finds himself a little behind, or before, the other men of his squad, he must be taught to recover his place in the rank gradually, and not to jump or rush to it, which would make him unsteady and spoil the marching of the rest of the squad.

SECTION 28.—A SINGLE RANK AT THE HALT, CHANGING FRONT.

Right–Wheel.
Slow–March.

By Wheeling.—On the word *March*, the right-hand man, called the pivot man, will mark time, turning gradually with the squad, to the new front; the remainder will step off, the whole turning their eyes to the left (the wheeling flank), except the left-hand man, who will look inwards, and step the usual pace of 30 inches, the other men regulating their length of pace according to their distance from the pivot flank. During the wheel, each man must

touch lightly, as explained in Section 27, towards the pivot flank, keeping his shoulders square in line; crowding must be carefully avoided; each man must yield to any pressure that may come from the pivot flank, and resist all pressure coming from the outer flank.

Squad–Halt. Dress. — On the word *Halt*, which may be given at any period of the wheel, the men will halt and turn their eyes to the front; on the word *Dress*, they will take up their dressing by the right, as described in Section 25, No. 3.

Eyes–Front. — On the word *Front*, the men will turn their heads and eyes to the front.

A squad will wheel to the left in like manner.

Nothing will sooner tend to enable the recruit to acquire the length of step proportioned to his distance from the pivot, than continuing the wheel without halting for several revolutions of the circle.

When men are required to wheel to the rear of the alignment they occupy, they will be turned about, and then wheeled as above directed, receiving the words *Halt, Front–Dress*, followed by *Eyes–Front*, when in position.

After wheeling has been taught in slow time, it will be practised in quick and double time.

Right–Form. Quick–March. — *By File formation.* — On the word *Form*, the right-hand man will turn to the right; the remainder will make a half-turn to the right. On the word *March*, all, except the right-hand man, will step off; each man, glancing to the right, will move, at the usual length of pace, by the shortest line, to his place in the new front, and take up his dressing by the right.

Eyes–Front. — On the word *Front*, the men will turn their heads and eyes to the front.

A squad will form to the left in like manner.

This formation will be practised in double as well as in quick time.

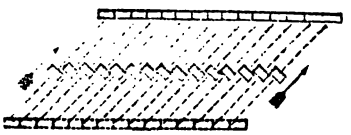
To face Page 27.

PLATE III.

Fig. 1.

THE DIAGONAL MARCH.

HALF RIGHT-TURN. QUICK-MARCH. HALT-FRONT.



FILES FORMING SQUAD.

Fig. 2.—ON THE MARCH, FRONT FORM-SQUAD.

Fig. 3.—RIGHT ABOUT-FORM-SQUAD.

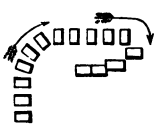


Fig. 4.

RIGHT FORM-SQUAD.

SECTION 29.—A SINGLE RANK ON THE MARCH, CHANGING DIRECTION.

Right–Wheel. — On the word *Wheel,* the men will wheel to the right as explained in Section 28, No. 1; the pivot man turning gradually with the squad.

Forward. — On the word *Forward,* the whole will turn their eyes to the front and step off at a full pace.

The instructor will give his word *Forward* when he sees that the men are commencing the pace that will bring the front of the squad perpendicular to the direction in which he intends it to move: this may be done at any degree of the circle.

In like manner, the squad will be taught to change direction to the left.

SECTION 30.—THE INCLINE OR DIAGONAL MARCH.—

PLATE III., Fig. 1.

This march will first be taught commencing from the halt, after which the soldiers when marching in line will be practised in moving diagonally to either flank, by making a half turn in the direction required.

Half Right–Turn. Slow–March. — *From the Halt.*—On the word *Turn,* the men will make a half turn to the right, and on the word *March,* each man will step off and move correctly in the diagonal direction, no longer keeping the touch. The right-hand man will direct, and must therefore pay particular attention to his direction and pace. Each of the other men will glance towards the right, and will retain his relative position, keeping his right shoulder behind the left shoulder of the next man on that side.

Squad, Halt–Front. — On the word *Halt,* the squad will halt; and on the word *Front,* it will turn to its original front.

If the diagonal march has been properly performed, the squad when halted and fronted will be found to be in a line parallel to its original position.

Half Right–Turn. *Front–Turn.* — *On the March.*—When the squad is marching to the front, and is required to move in a diagonal direction to the right, the word *Half Right–Turn* will be given, upon which the men will turn half right and move diagonally in that direction, as described from the halt; when it is intended to resume the original direction, the word *Front–Turn* will be given, on which every man will turn to his front and move forward without checking his pace.

In like manner, the diagonal march will be practised to the left, from the halt and on the march.

The diagonal march will also be practised in quick and double time.

SECTION 31.—MARCHING AS IN FILE.

Soldiers will first be taught to commence marching as in file, from the halt; after which they must be taught, when marching in line, to turn to either flank as in file.

Right (or *Left*)*–Turn.* — *From the Halt.*—Soldiers, when standing as in file, must be instructed how to cover each other exactly. The head of the man immediately before each soldier, when he is correctly covered, will conceal the heads of all the others in his front.

The strictest observance of all the rules for marching is particularly necessary when marching as in file.

Slow–March. — On the word *March*, the whole will step off together, at a full pace, and will so continue to step without increasing or diminishing the distance between each other. No looking down, nor leaning

back is to be allowed. The leader is to be directed to march straight forward on some distant objects, the remainder of the men covering correctly during the march.

Squad, Halt–Front. — On the words *Halt-Front*, the soldiers will halt and turn to their original front, and, if the marching has been properly performed, their dressing will be found correct.

Right–Turn. — *On the March.*—On the word *Turn*, the soldier will turn to the right, and move on as in file.

Front–Turn. — The original direction is resumed by giving the word *Front-Turn*, on which the soldier will turn to the front, and then move on steadily in line.

In like manner soldiers will be taught to turn to the left from line and march as in file, and, when marching as in file, to turn again to the front.

The rules laid down in Section 22, No. 2, regarding the foot on which the soldier is to turn, must be strictly observed in a squad in single rank.

Marching as in file will also be practised in quick time, but never in double time.

SECTION 32.—WHEELING AS IN FILE.

Right (or *Left*)*–Wheel*, or *Right-about* (or *Left-about*) *–Wheel.* — The squad, when marching as in file, will be taught to change its direction, by wheeling to the right or to the left, or to the right (or left) about. The leading man will move round a quarter, or half, of the circumference of a circle having a radius of four feet; the other men following on his footsteps in succession, without increasing or diminishing their distances from each other or altering the cadence, but lengthening the pace a little with the outer foot, as they wheel.

SECTION 33.—MEN MARCHING AS IN FILE FORMING SQUAD. —PLATE III., Figs. 2, 3, and 4.

At the Halt, Front Form—Squad. — *Forming to the Front, at the Halt.*—When the squad, marching as in file to the right, is ordered to form to the front at the halt, the leading man will advance four paces and halt; the remainder will make a half turn to the left, and form upon him as directed in Section 28, No. 2.

Eyes Front. — Heads and eyes will be turned to the front.

Front Form—Squad. — *Forming to the Front, in Quick Time.*—When a squad, marching as in file to the right, is ordered to form to the front, the leading man will mark time; the remainder will make a half turn to the left, and form upon him, marking time, and taking up the dressing as they arrive at their places.

Forward. — As soon as the squad is formed, the word *Forward* will be given.

On the March, Front Form—Squad. — *Forming to the Front, in Double Time.*—When a squad, marching as in file to the right, is ordered to form to the front on the march, the leading man will continue moving on; the remainder will make a half turn to the left, double up to their places, and take up the quick time as they successively arrive in line with the leading man.

Right Form—Squad. — *Forming to the Right.*—When marching as in file to the right, and ordered to form to the right, the leading man will wheel to the right, take four paces to his front, and halt; the remainder will form in succession on his left, and be dressed as they get into their places.

Eyes-Front. — The word *Eyes-Front* will be given when the squad is formed.

Forming to the Right-about.—When a squad, marching as in file to the right, is ordered to form to the right-about, the leading man will wheel to the right-about, take four paces to his front, and

Right-about Form–Squad. halt; the remainder will march on as in file, wheeling to the right on the spot where the leading man has wheeled, and forming successively on his left, looking to the flank of formation for their dressing. The words *Eyes–Front* will be given when the squad is formed.

Eyes–Front.

When marching as in file to the left, a squad will be formed to the front, or rear, or to the left, or left about, on the same principle as it is formed to the front, or rear, or to the right, or right about, when the right is leading.

A squad marching as in file will resume its original front by the words *Halt–Front,* or *Front–Turn.*

SECTION 34.—THE SIDE OR CLOSING STEP.

The side or closing step will now be practised, the men judging the time, as laid down in Section 21, No. 2. Care must be taken that the shoulders are kept square, and the paces made in a direct line to the flank.

SECTION 35.—CARBINE AND SWORD EXERCISE.

Recruits having been thoroughly instructed in the preliminary drills explained in the foregoing Sections, will next be taught carbine drill and the sword exercise. A part of each drill with arms will be devoted to the practice of marching, as directed in the following Section.

SECTION 36.—MARCHING WITH ARMS.

Squads with arms will be practised in the different marches, and variations of step, described in the foregoing Sections; when marching in double time at "The Trail," the arm that does not carry the carbine will not be raised as directed in Section 21. During these practices, great attention must be paid to the position of the recruit.

When men parade with arms, they will fall in standing at ease from the order.

SQUAD DRILL, IN TWO RANKS.

SECTION 37.—FORMATION OF SQUAD IN TWO RANKS.

The recruits when thoroughly grounded in the foregoing instructions, will be practised in two ranks, the rear rank

being formed at three paces from the front rank; each man covering correctly, and looking at the middle of the neck of his front-rank man, to which points his attention must be particularly directed, in all marches and wheelings. The two men of the front and rear rank together form a "File."

In dressing in two ranks, both ranks look to the dressing point.

In file marching, in two ranks, the men of the rear rank must look to, and regulate themselves by, their front-rank men. The squad, when marching in file, must be accustomed to wheel its head to either flank, each file following successively without alteration of distance. On this occasion, each file makes a wheel on a pivot, movable in a very small degree, but without altering the time of march, or the eyes of the rear rank being turned from their front rank.

In wheeling in two ranks, the front rank of the squad will wheel from the halt, or on the march, according to the instructions laid down in Section 28 or Section 29. The rear rank men in wheeling must be careful not only to keep their proper distance from their front rank men, but to follow and cover the latter exactly, so that when the word "*Halt*" or "*Forward*" is given, the men of both ranks may be in their proper relative positions.

The incline or diagonal march will be practised in two ranks, in the manner described in Section 30. In addition to the instructions therein given, the rear-rank men must be cautioned to preserve their relative positions with their front-rank men, in order that they may be found to cover correctly when they are halted and fronted.

When the squad in two ranks is sufficiently instructed in marching, wheeling, &c., as directed for a squad in single rank, it will be told off by fours as when mounted, and all further instructions as to formations, &c., will be carried out in accordance with the directions for mounted formations given in Sections 41 and 42, substituting (as far as possible) a pace for a horse's length.

SECTION 38.—CALCULATION OF EXTENT OF FRONT.

The number of paces of 30 inches comprised in the front of any body, is nearly four-fifths of the number of files of which it is composed. The officer or non-commissioned officer commanding it must, on all occasions, recollect the number of paces that are equal to his front.

TABLE of the NUMBER of PACES corresponding to a given NUMBER of FILES, on FOOT.

Number of files in a Division, each occupying 21 Inches	5	10	12	14	15	16	18	20	30	40	50	100
Front of Division in paces of 30 Inches (Paces. Inches.)	4	8	9-18	11-6	12	12-24	14-12	16	24	32	40	80

TELLING OFF.

The Squad is told off as follows:—

"*From the right, tell off by Fours.*" In telling off by fours, the first file tells off "One," the second "Two," and the third "Three," the fourth "Four," and so on. 1, 2, 3, 4.

The several tellings off are next to be proved.

"*Flanks of Fours, Prove.*" On this command, the men who told themselves off "1 and 4," will quickly stretch out their right hands, their arms on a level with their shoulders, the thumb upwards, and the palm of the hand to the left.

"*As you were.*" The men drop their hands to the usual position. This command is given after proving each telling off.

"*Even Numbers, Prove.*" When in double ranks, the front rank only tell off; but the rear rank take up and prove their tellings off with their front file leaders. Three paces at all times to be kept between front and rear rank, whether in fours, sections, half sections, or files.

SECTION 39.—MOVEMENT BY FOURS.

The following movements by fours are laid down for mounted men; the formation, telling off, and words of command are the same on foot.*

The wheel is made upon the flank man of each section, the dressing to the wheeling flank. Fours wheel at once after a command without the word "March."

The words of command are "*Fours Right,*" "*Fours Left,*" "*Fours about,*" and "*Fours Left about.*" "*Fours*" having wheeled about, must resume their original front by wheeling "*Fours about*" to the same hand as that by which they had gone about.

After "Fours Right," the fours are fronted by the order "Fours Left," and *vice versâ.*

"Fours" as a rule always wheel to the "Right about."

In correcting intervals in line, if the interval to be corrected is inconsiderable, it will be effected by the "passage;"

* One pace being allowed for a horse's length as far as practicable.

if considerable, the words "Fours Right," will be given, and will be immediately succeeded by "Right Incline," and *vice versâ*.

Though as a rule, and always in manœuvre, fours are wheeled on the flank man, there are some rare occasions when it may be necessary for the "Wheel" or "Wheel about," to be made on the centre (Nos. 1, 2, reining back, and 3, 4, wheeling up, when to the "Right," or "Right about," and *vice versâ* when to the left). The word of command then is "*On the Centres*," "*Fours Right*," "*Fours Left*," or "*Fours About*."

The rearmost section must move off and halt at the same instant as the head of the column. The distances between the sections (half a horse's length) must be very carefully preserved during the movement, and the interval of half a horse's length, between front and rear rank (in column), must also be preserved.

The following rules must be observed in the case of broken sections when in column.

In column of Fours. If the broken section should consist of one man, he will be on the pivot flank. If it consist of two men, they will be on the two flanks, and if of three the centre man will be next the pivot man. A broken section of the rear rank will be distributed in the same manner, abreast of the front-rank section.

In column of Sections. If the broken section consist of one file, the rear-rank man moves up on the side of his front-rank man. If it consist of two files, the rear-rank half section moves up on the side of the front rank. If it consist of three files, the rear-rank men follow their front-rank men, the men of both ranks being posted as in a broken section, consisting of three men in a column of fours.

In column of Half Sections. If the broken section consist of one file, the same rule is observed as in column of sections, namely, the rear-rank man moves up on the side of his front-rank man. If it consist of a file and a half (three men), the rear-rank man covers his own front-rank man.

To retire, when marching along a road in "Half Sections," the order is "Half Sections Right (or Left) about Wheel," upon which each half section of the front rank wheels about followed by its rear-rank half section.

If marching in sections, each front-rank section wheels about followed by its rear-rank section.

In dismounting the even numbers of both ranks rein back one horse's length.

SECTION 40.—DIRECTIONS TO INSTRUCTORS.

The drills must be practised in squads of from 12 to 18 men in single rank, they must then be gone through by two ranks.

When marching in any column of fours, sections, half sections, &c., the Instructor should occasionally halt the column, and make its head passage to the right or left,—say a yard—and then make the rear cover in succession by the passage.

In executing formations, the Instructor takes care to place the leading men perfectly square, as they arrive on the intended line, in order that the remainder may have a correct base for their formation: great pains must be taken to prevent any hurry in dressing up, which cannot be done too steadily; it is always better to be behind than before the line.

Except for a few of the first lessons and for the sake of explanation to the soldier, the formations should always be performed from the move, and without any preparatory halt.

No fault requires so much attention to correct as the hurrying up of the rear during a formation, even although some loss of distance should happen in consequence.

The "Fours" on the flanks should be occasionally changed during the exercise, in order to accustom every man to lead steadily, and acquire readiness in commencing marches and formations.

The command "Fours" should be given as a caution, then after a pause, "Right," "Left," or "About."

SECTION 41.—MARCHES TO THE FLANKS, FRONT, AND REAR, BY FOURS, SECTIONS, HALF SECTIONS, FILES, AND SINGLE FILE.

Men should be practised at drill to break into formations of "Fours," "Sections," "Half Sections," and "Single File," and again re-form (as taught in this and the following sections). When they are rear rank in front the words of command and explanations must be transposed accordingly.

When from column of fours, &c., it is intended to form line with the rear rank in front, the ordinary word of command for the formation will be preceded by the caution "*Rear Rank leading.*"

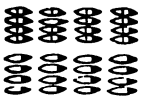
The distance from head to croup in all marches by

"Fours," "Sections," "Half Sections," "Files," and "Single File," is half a horse's length. The interval between the front and rear rank section in column of fours is also half a horse's length. In all other cases the interval between the men from knee to knee is 6 inches.

MARCHES TO THE RIGHT.

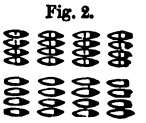
BY FOURS.

Fig. 1.



"*Fours Right.*" The whole wheel "Fours right." (Fig. 1.)

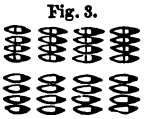
Fig. 2.



"*March.*" The whole move off together. (Fig. 2.)

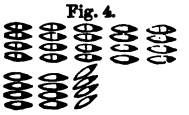
BY SECTIONS.

Fig. 3.



"*Sections Right.*" The whole wheel "Fours right." (Fig. 3.)

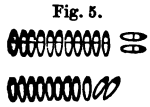
Fig. 4.



"*March.*" The leading four of the front rank marches straight forward, its rear rank inclining and covering it: the remainder move off their ground in succession, in the same manner; first a front-rank four, and then a rear-rank four, alternately. (Fig. 4.)

BY HALF SECTIONS.

Fig. 5.

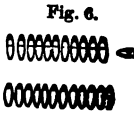


"*Half Sections Right.*" "*March.*" The right front-rank half section wheels to the right and marches to the flank, followed by its rear-rank men, who incline and cover: the remainder move off in succession, as it comes to their turn. (Fig. 5.)

BY SINGLE FILE.

"*Single File Right.*" "*March.*" The right-hand man of the front rank turns to the right and marches straight forward, followed by his rear-rank man; the remainder move off their ground in succession in the same manner; first a front-rank man, and then a rear-rank man, alternately. (Fig. 6.)

Fig. 6.



If for any particular purpose it is wished to move off to the right in file (*i.e.*, front and rear rank men abreast of each other), the command is "*File Right*," "*March*." The right-hand men of both ranks turn to the right (the rear-rank man closing to an interval of 6 inches from his front-rank man), and march straight forward; the remainder move off their ground in succession, front and rear-rank men together, as it comes to their turn. Marches to the front and to the rear in file may be executed on the same principle, the rear-rank men moving abreast of their front-rank men.*

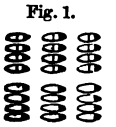
Marches to the left are conducted in a similar manner, the word "*Left*" being substituted for "*Right*" in the explanations and commands.

MARCHES FROM THE RIGHT TO THE FRONT.

BY FOURS.

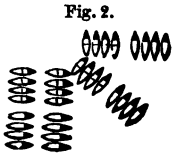
"*Advance by Fours from the Right.*" "*Fours Right.*" The whole wheel "Fours right." (Fig. 1.)

Fig. 1.



"*Leading Fours Left Wheel.*" "*March.*" The leading fours wheeling to the left receive the word "*Forward*," and move straight to the front; the remainder move on, and wheel to the left, at the same point from which the right-hand four advanced. (Fig. 2.)

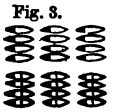
Fig. 2.



BY SECTIONS.

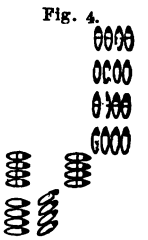
"*Advance by Sections from the Right.*" "*Fours Right.*" The whole wheel "Fours right." (Fig. 3.)

Fig. 3.



"*Leading Section Left Wheel.*" "*March.*" The leading front rank section, wheeling to its left, receives the word "*Forward*" and marches straight to the front, followed by its rear rank; the remainder move off their ground in succession; first a front-rank, and then a rear-rank, section alternately, and wheel to the left at the same point from which the leading section wheeled. (Fig. 4.)

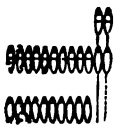
Fig. 4.



* Marching in file is not to be generally practised, but may occasionally be useful for such purposes as lining streets, &c. The troops marching in file, and the required interval having been taken between the front and rear-rank men, the two ranks are faced towards each other by the command "*Inwards Turn*," and the original order of march is resumed by the command "*Right and Left Turn*."

BY HALF SECTIONS.

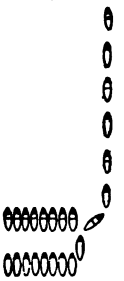
Fig. 5.



"*Advance by Half Sections from the Right.*" "*March.*" The right front-rank half section marches straight to the front, followed by its rear rank; the remainder wheel to the right, move off their ground in succession, as it comes to their turn, wheeling to the left, when they arrive at the point from which the leading half section advanced. (Fig. 5.)

BY SINGLE FILE.

Fig. 6.



"*Advance by Single File from the Right.*" "*March.*" The right-hand man of the front rank marches straight to the front, followed by his rear-rank man; the remainder move off their ground in succession; first a front-rank, and then a rear-rank man, alternately, and turn to the left, at the same point from which the leading man advanced. (Fig. 6.

Marches from the left to the front are conducted in a similar manner, the words "*Left*" and "*Right*" being substituted for each other in the explanations and commands.

MARCHES FROM THE RIGHT TO THE REAR.

BY FOURS.

Fig. 1.

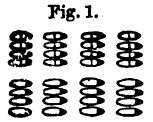
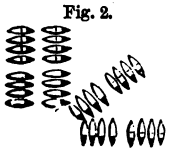


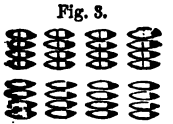
Fig. 2.



"*Retire by Fours from the Right.*" "*Fours Right.*" The whole wheel "Fours right." (Fig. 1.) "*Leading Fours Right Wheel,*" "*March;*" the leading fours, wheeling to the right, receive the word "*Forward,*" and march straight to the rear, the remainder following, and wheeling to the right, at the same point from which the leading fours retired. (Fig. 2.)

BY SECTIONS.

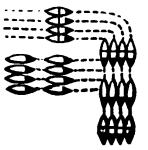
Fig. 3.



"*Retire by Sections from the Right.*" "*Fours Right.*" The whole wheel "Fours right." (Fig. 3.) "*Leading Section Right Wheel,*" "*March;*" the leading front-rank section, advancing one yard, and wheeling again to

the right, marches straight to the rear, followed by its rear-rank section; the remainder move off their ground in succession; first a front-rank, and then a rear-rank, section, alternately, each wheeling to the right at the same point from which the leading section retired. (Fig. 4.)

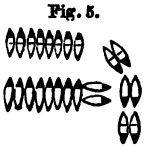
Fig. 4.



BY HALF SECTIONS.

"*Retire by Half Sections from the Right.*" "*March.*" The right front-rank half section turns to the right-about, and marches to the rear, followed by its rear rank; the remainder move off their ground in succession, front and rear-rank half sections alternately, as it comes to their turn, wheeling to their right, when they arrive at the same point from which the leading half section retired. (Fig. 5.)

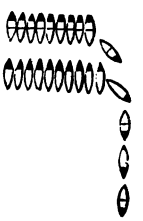
Fig. 5.



BY SINGLE FILE.

"*Retire by Single File from the Right.*" "*March.*" The right-hand man of the front rank turns about, and marches straight to the rear, followed by his rear-rank man; the remainder move off their ground in succession; first a front-rank, and then a rear-rank, man, alternately, each turning to his right, as he arrives at the same point from which the leading man retired. (Fig. 6.)

Fig. 6.



Marches from the left to the rear are conducted in a similar manner, the word "*Left*" being substituted for "*Right*" in the explanations and commands.

SECTION 42.—FORMATIONS TO THE FRONT, FLANKS, AND REAR, FROM FOURS, SECTIONS, HALF SECTIONS, FILES, AND SINGLE FILE.

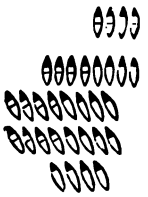
In all formations of line from "Fours," "Sections," "Half Sections," "Files," and "Single File," it is to be remembered that the original telling off must never be lost sight of, and in the new line which is formed the original formation is always to be regained; thus the right section in a division must always be on the right, and must always have the same men on its left, and so on.

FORMATIONS TO THE FRONT.

If the column has advanced from the right.

FROM FOURS.*

Fig. 1.



"*Front Form.*" The leading four of the front rank continues to advance for four horses' lengths, and then halts, its rear-rank four checking its pace, and moving by an incline to its proper distance, and covering it; the rest of the rear-rank fours check their pace till the front-rank four of the rank next behind come up abreast of them, the whole moving up into line with the leading four by inclining to the left. (Fig. 1.)

Fig. 2.

FROM SECTIONS.

"*Front Form.*" The leading section of the front rank continues to advance for four horses' lengths, and then halts, its rear-rank section moving up to its proper distance and covering it, and the remainder moving up into line by inclining to the left. (Fig. 2.)

Fig. 3.

FROM HALF SECTIONS.

"*Front Form.*" The leading half section of the front rank continues to advance for four horses' lengths, and then halts, its rear rank moving to its proper distance, and covering; the remainder moving up into line by inclining to the left. (Fig. 3.)

Fig. 4

FROM SINGLE FILE.

"*Front Form.*" The leading man of the front rank continues to advance for four horses' lengths, and then halts, his rear-rank man moving up to his proper distance, and covering him; the remainder moving up into line by inclining to the left. (Fig. 4.)

* It must be recollected that all the formations from fours, sections, half sections, and single file are to be performed on the move without any preparatory halt. It is only for the first explanations, that the leading four or file may be moved up separately, and placed on its ground. The rear-rank fours then wait before they move.

If for any particular purpose, when marching in file, a formation to the front is required, on the command "*Front Form,*" the leading man of the front rank continues to advance four horses' lengths, and then halts, his rear-rank man checking his pace, moving to his proper distance, and covering him; the rest of the rear-rank men check their pace till the front-rank men of the file next behind come up abreast of them, the whole moving up into line with the leading file by inclining to the left. Formations from file to a flank and to the rear, when necessary, are made upon a similar principle.

OBSERVATIONS.—1. In formations to the front, immediately on issuing from narrow ways or streets, it is impossible for the rear, who are not yet clear of the defile, to incline at once towards their places in line; on these occasions, therefore, the formation of all but the head of the column becomes the same as laid down for "Formations to the Outer Flank," since all, excepting the leading men, turn to the left as they come out of the defile, and march along the rear of those already formed, till they come opposite the places where they are to move up into line.

2. If the column has advanced from the left, the formation will be on the right of the leading fours, sections, half sections, or single file, and will be carried out in a similar manner, the word "*Right*" being substituted for "*Left*" in the explanations and commands.

FORMATIONS TO THE PIVOT FLANK.

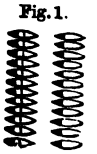
If the column has advanced from the right.

FROM FOURS.

"*Fours Left.*" N.B.—In this case, the word "*Fours Left*" is employed instead of "*Left Form.*"

The whole of the fours wheel to the left and halt. (Fig. 1.)

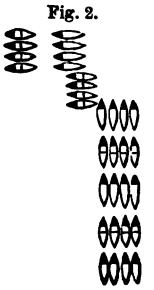
Fig. 1.



FROM SECTIONS.

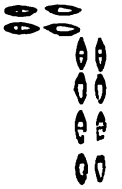
"*Left Form.*" The leading section wheels to the left, and moves up four horses' lengths, followed by its rear-rank section, which halts at its proper distance; the remainder continue moving on, and as each section arrives opposite its place, it wheels to the left, and forms up to the rank to which it belongs. (Fig. 2.)

Fig. 2.



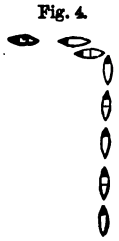
FROM HALF SECTIONS.

Fig. 3.



"*Left Form.*" The leading half section wheels to the left, and moves up four horses' lengths, followed by its rear rank, which halts at its proper distance; the remainder continue moving on, and as each half section arrives opposite its place, it wheels to the left, and forms up to the rank to which it belongs. (Fig. 3.)

Fig. 4.



FROM SINGLE FILE.

"*Left Form.*" The leading man turns to the left, and moves up four horses' lengths, followed by his rear-rank man, who halts at his proper distance; the remainder continue moving on, and as each man arrives opposite his place, he turns to the left, and forms up to the rank to which he belongs. (Fig. 4.)

If the column has advanced from the left the right flank becomes the pivot flank, and the formations may then be carried out in a similar manner to that above detailed, the word "*Right*" being substituted for the word "*Left*" in the explanations and commands.

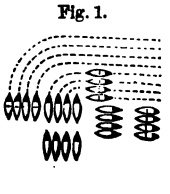
FORMATIONS TO THE OUTER FLANK.

If the column has advanced from the right.

FROM FOURS.

"*To the Outer Flank.*" "*Right Form.*" The rear-rank four check their pace till the front-rank fours of the rank next behind come up abreast of them; in the meantime, the leading four of the front rank advances one horses' length, wheels to the right and advances four horses' lengths beyond the right flank of the column, and halts; its rear rank wheeling to the right, covering it, and moving up to the proper distance; the remainder continue moving on, each four wheeling to the right when opposite its place, and forming up to the rank to which it belongs. (Fig. 1.)

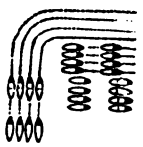
Fig. 1.



FROM SECTIONS.

"*To the Outer Flank.*" "*Right Form.*" The leading section of the front rank wheels to the right, advances four horses' lengths, and halts; its rear-rank section arriving behind it, wheels, covers, and moves up to its proper distance; the remainder continue moving on, and as each section arrives opposite its place, it wheels to the right, and forms up to the rank to which it belongs. (Fig. 2.)

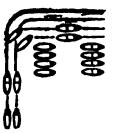
Fig. 2.



FROM HALF SECTIONS.

"*To the Outer Flank.*" "*Right Form.*" The leading half section of the front rank wheels to the right, advances four horses' lengths, and halts; its rear rank wheeling to the right and covering, and moving up to its proper distance; the remainder continue moving on, each half-section wheeling to the right when opposite its place, and forming up to the rank to which it belongs. (Fig. 3.)

Fig. 3.



FROM SINGLE FILE.

"*To the Outer Flank.*" "*Right Form.*" The leading man of the front rank turns to the right, advances four horses' lengths, and halts; the rear-rank man arriving behind him, turns, covers, and moves up to his proper distance; the remainder continue moving on, and as each man arrives opposite his place, he turns to the right, and forms up to the rank to which he belongs. (Fig. 4.)

Fig. 4.

If the column has advanced from the left, the left flank becomes the outer flank, and the formation may then be carried out in a similar manner to that above detailed, the word "*Left*" being substituted for "*Right*" in the explanations and commands.

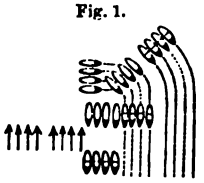
FORMATIONS TO THE REAR.

If the column has advanced from the right.

FROM FOURS.

"*Right about Form.*" The rear rank fours check their pace till the front-rank fours next behind come up abreast of them; in the meantime, the leading four of the front rank advances one horse's length, wheels to its right, advances enough to clear the flank of the column by half a horse's

Fig. 1.

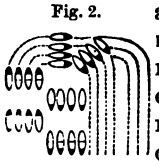


length, wheels again to its right, advances four horses' lengths, and halts; its rear rank makes two wheels to the right, follows and covers at the proper distance; the remainder continue moving on, wheeling to the right at the same point, passing along the rear of those already formed, and forming up to the ranks to which they belong, as they come opposite their places. (Fig. 1.)

From Sections.

"*Right about Form.*" The leading section of the front rank wheels to the right, advances enough to clear the flank of the column by half a horse's length, wheels again to its right, advances four horses' lengths, and halts; its rear rank makes two wheels to the right, in like manner, when it has reached the same point, following and covering at the proper distance; the remainder continue moving on, wheeling to the right at the same point, passing along the rear of those already formed, and forming up to the ranks to which they belong when they come opposite their places. (Fig. 2.)

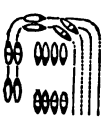
Fig. 2.



From Half Sections.

"*Right about Form.*" The leading front-rank half section wheels to the right, advances enough to clear the flank of the columns by half a horse's length, wheels again to the right, advances four horses' lengths, and halts; its rear rank makes two wheels to the right, follows and covers; the remainder continue moving on, wheeling to the right at the same point, passing along the rear of those already formed, and forming up to the ranks to which they belong, as they come opposite their places. (Fig. 3.)

Fig. 3.



From Single File.

"*Right about Form.*" The leading man turns to the right, advances half a horse's length, turns again to the right, advances four horses' lengths, and halts; his rear-rank man makes two wheels in like manner, as he arrives at the same point, following and covering at the proper distance; the remainder continue moving on, wheeling to the right at the same point, passing along the rear of those already formed, and forming up to the ranks to which they belong as they come opposite their places. (Fig. 4.)

Fig. 4.

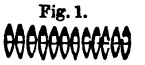
If the column has advanced from the left the formations will be made by the command "*Left about Form*" and the word "*Left*" substituted for "*Right*" in the explanations.

SECTION 43.—COUNTERMARCH, AND REVERSING THE FRONT.

COUNTERMARCH.

The effect of a countermarch is, that the front rank and rear rank change places, and the line fronts the contrary way to what it did before.

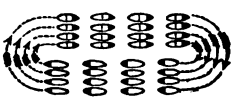
Fig. 1.



The division in line (Fig. 1) receives the caution, "*The Division will Countermarch,*" followed by "*Fours Right and Left,*" on which the front rank wheel "Fours right;" and the rear rank wheel "Fours left." (Fig. 2.)

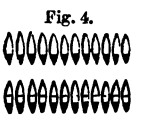
Fig. 2.

Fig. 3.



On the word "*March,*" the leading four of each rank advances half a horse's length, and wheels to the right-about on its right-hand man, and the whole follow, and wheel at the same point, until the front rank and rear rank have (within a horse's length) changed places (Fig. 3.); immediately upon which the word "*Halt, Fours Right and Left, Dress,*" is given. On the command "*Fours Left and Right,*" the front rank wheel to the left, the rear rank to the right. (Fig. 4.)

Fig. 4.



OBSERVATIONS.—Whenever a division countermarches, the front rank invariably wheel "Fours right," and the rear rank "Fours left," without reference to which flank may be the pivot.

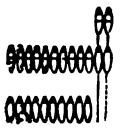
The front may also be reversed by the command "*Division Right* (or *Left*) *about Wheel.*"

SECTION 44.—DIMINUTION AND INCREASE OF FRONT.

When the following movements are performed on foot, instead of the rear "Doubling" or "Halting" according as the front is increased or diminished, the "Mark Time" will be used, thus: DIMINISHING THE FRONT FROM FOURS TO SECTIONS; the command will be "*Form Sections,*" "*Rear Mark Time,*" the whole will "Mark Time" except the leading section, which will continue to march on, the remainder forming in succession. INCREASING THE FRONT FROM SECTIONS TO FOURS; the command will be "*Form Fours,*" "*Leading Section Mark Time,*" the leading section will "Mark Time," its rear rank inclining, and the remainder form fours in

BY HALF SECTIONS.

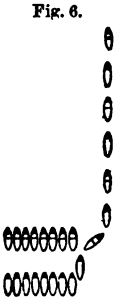
Fig. 5.



"*Advance by Half Sections from the Right.*" "*March.*" The right front-rank half section marches straight to the front, followed by its rear rank; the remainder wheel to the right, move off their ground in succession, as it comes to their turn, wheeling to the left, when they arrive at the point from which the leading half section advanced. (Fig. 5.)

BY SINGLE FILE.

Fig. 6.



"*Advance by Single File from the Right.*" "*March.*" The right-hand man of the front rank marches straight to the front, followed by his rear-rank man; the remainder move off their ground in succession; first a front-rank, and then a rear-rank man, alternately, and turn to the left, at the same point from which the leading man advanced. (Fig. 6.

Marches from the left to the front are conducted in a similar manner, the words "*Left*" and "*Right*" being substituted for each other in the explanations and commands.

MARCHES FROM THE RIGHT TO THE REAR.

BY FOURS.

Fig. 1.

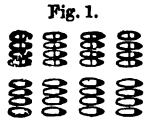
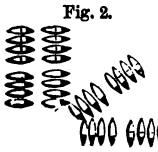


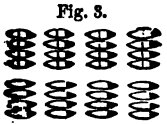
Fig. 2.



"*Retire by Fours from the Right.*" "*Fours Right.*" The whole wheel "Fours right." (Fig. 1.) "*Leading Fours Right Wheel,*" "*March;*" the leading fours, wheeling to the right, receive the word "*Forward,*" and march straight to the rear, the remainder following, and wheeling to the right, at the same point from which the leading fours retired. (Fig. 2.)

BY SECTIONS.

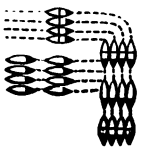
Fig. 3.



"*Retire by Sections from the Right.*" "*Fours Right.*" The whole wheel "Fours right." (Fig. 3.) "*Leading Section Right Wheel,*" "*March;*" the leading front-rank section, advancing one yard, and wheeling again to

the right, marches straight to the rear, followed by its rear-rank section; the remainder move off their ground in succession; first a front-rank, and then a rear-rank, section, alternately, each wheeling to the right at the same point from which the leading section retired. (Fig. 4.)

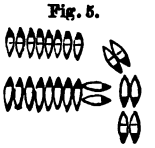
Fig. 4.



BY HALF SECTIONS.

"*Retire by Half Sections from the Right.*" "*March.*" The right front-rank half section turns to the right-about, and marches to the rear, followed by its rear rank; the remainder move off their ground in succession, front and rear-rank half sections alternately, as it comes to their turn, wheeling to their right, when they arrive at the same point from which the leading half section retired. (Fig. 5.)

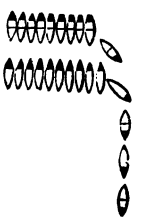
Fig. 5.



BY SINGLE FILE.

"*Retire by Single File from the Right.*" "*March.*" The right-hand man of the front rank turns about, and marches straight to the rear, followed by his rear-rank man; the remainder move off their ground in succession; first a front-rank, and then a rear-rank, man, alternately, each turning to his right, as he arrives at the same point from which the leading man retired. (Fig. 6.)

Fig. 6.



Marches from the left to the rear are conducted in a similar manner, the word "*Left*" being substituted for "*Right*" in the explanations and commands.

SECTION 42.—FORMATIONS TO THE FRONT, FLANKS, AND REAR, FROM FOURS, SECTIONS, HALF SECTIONS, FILES, AND SINGLE FILE.

In all formations of line from "Fours," "Sections," "Half Sections," "Files," and "Single File," it is to be remembered that the original telling off must never be lost sight of, and in the new line which is formed the original formation is always to be regained; thus the right section in a division must always be on the right, and must always have the same men on its left, and so on.

rear rank, and No. 4 of No. 2. The remainder form up in succession, odd numbers on the right, even numbers on the left.

FROM HALF SECTIONS TO SECTIONS. The battery standing in half sections (after having advanced from the right), the caution is given, "*Form Sections.*" On the word "*March,*" the leading half section advances four horses' lengths, and the left half section moves up on its left, the remainder following, and each section forming when it arrives at those which formed last.

FROM SECTIONS TO FOURS. The battery standing in sections (after having advanced from the right), the caution is given, "*Form Fours.*" On the word "*March,*" the leading front-rank section advances four horses' lengths, the leading rear-rank section inclines to the right, and dresses up to it; the remainder move off at a walk, each four forming when it arrives at those which formed last.

FROM FOURS TO DIVISIONS. The battery standing in fours (after having advanced from the right), the caution is given, "*Form Divisions.*" On the word "*March,*" the leading front-rank section of each division advances four horses' lengths and halts; the remainder of each division inclining and forming on their own leading sections in the manner laid down for the "Formation to the Front from Fours," in Section 42.*

If the battery standing in column of "divisions," "fours," "sections," "half sections," or "single file," has advanced from its left, the front may afterwards be increased in the same manner as above detailed, the words "left" and "right" being substituted for each other in the explanations and commands, except in forming "half sections" from "single file," when it is always to be remembered that the odd numbers are always to be on the right and the even numbers on the left, and that the odd numbers must incline to their right, instead of the even numbers of their left.

INCREASING THE FRONT ON THE MOVE.

FROM SINGLE FILE TO HALF SECTIONS. The battery arriving in file (after having advanced from the right) at the spot where the front is to be increased to half sections, receives the word "*On the move, Form Half Sections,*" "*Rear Trot* or *Gallop.*" All the men in rear move up at double the pace at which the column was moving. The leading men front and rear rank continue to move steadily forward; No. 2 of each rank moves up on the left of No. 1. No. 3 of the front rank moves up in rear of No. 1 of the rear rank, and No. 4 of No. 2, and take up the former pace. The

* As the last rear-rank section of each division, except the rear one, is prevented inclining by the leading section of the next division, it must advance straight till it gets room.

remainder move up, each half section forming as it arrives at those which last formed.

FROM HALF SECTIONS TO SECTIONS. The battery (after having advanced from the right) arriving in half sections at the spot where the front is to be increased to sections, receives the word "*On the move, Form Sections,*" "*Rear Trot,* (or *Gallop*)." The leading half section moves steadily forward, and the left half section moves up upon its left. The remainder move up, each section forming as it arrives at those which formed last.

FROM SECTIONS TO FOURS. The battery (after having advanced from the the right) arriving in sections at the spot where the front is to be increased to fours, receives the word "*On the move, Form Fours,*" "*Rear Trot* (or *Gallop.*)" The leading section continues to move steadily forward; its rear-rank section inclines to the right, and moves up abreast of it. The remainder move up, each four forming when they arrive at those which formed last.

FROM HALF SECTIONS TO FOURS. The battery (after having advanced from the right) forms at once from half sections to fours by the word "*On the move, Form Fours,*" "*Rear Trot* (or *Gallop*)," on which the leading half section of the front rank forms as before directed; the rear-rank half section inclines to the right, so as to give room for the half section on its left between it and the front rank. The remainder move up, and form in the same manner. (Fig. 1.)

Fig. 1.

FROM FOURS TO DIVISIONS. The battery (after having advanced from the right) arriving in fours at the spot where the front is to be increased to divisions, receives the word "*On the move, Form Divisions,*" "*Rear Trot* (or *Gallop*)." Each division forms to the front, as laid down for the "Formation to the Front from Fours."*

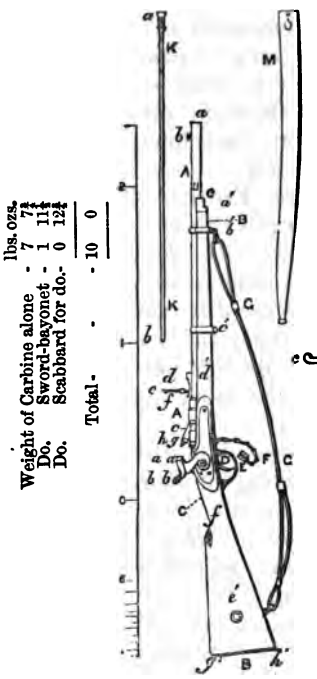
If the battery moving in column of "Divisions," "Fours," "Sections," "Half Sections," or "Single File" has advanced from its left, the front may afterwards be increased in the same manner as above detailed, the words "left" and "right," being substituted for each other in the explanations and commands, except in forming half sections from single file, when it is to be remembered that odd numbers are always to be on the right and even numbers on the left, and that the odd numbers must incline to their right, instead of the even numbers to their left.

* As the last rear-rank section of each division is prevented inclining by the leading section of the next division, it must advance straight till it gets room.

PART II.

CARBINE EXERCISES.

NAMES OF THE PARTS OF THE CARBINE.



A A. Barrel.
a. Muzzle.
b. Fore-sight.
c. Catch.
d. Back-sight. { e. Flap. f. Slide.
g. Nipple-lump.
h. Breech-block.
B B. Stock.
a'. Nose cap.
b'. Upper band.
c'. Lower band.
d'. Projection.
e'. Butt. { f'. Small. g'. Heel. h'. Toe.
C C. Lock.
a a. Hammer.
b b. Comb of Hammer.
D. Trigger.
E. Trigger-guard or guard.
F. Snap-cap.
G G. Sling.
K K. Rod. { a. Head or jag. b. Point.
L L. Sword.
a. Blade.
b. Hilt.
c. Guard and ring.
d. Spring.
M. Scabbard.

The side of the carbine on which the lock is placed is called the lock side.

General Directions.

I.

Names of Parts of the Carbine.—Recruits, before th commence to learn the Manual and Firing Exercises, mu be taught the names of the different parts of the carbine, shown in the annexed Plate.

II.

Formation of Squad.—Soldiers will be formed in squads of single rank to learn the Manual and Firing Exercises by Numbers and in Quick Time; after which they will practise in two ranks what they have learned in one rank.

III.

Instructor to have Carbine.—The instructor should always be provided with a carbine when at drill, in order that he may be able to show the recruit the required positions and movements.

IV.

The Carbine to be used with care.—The carbine must be carefully handled, as any rough usage will injure it.

V.

How to carry the Carbine.—Carbines when loaded will invariably be carried at half-cock; when unloaded, they will be carried with the hammer down on the nipple, except where it is otherwise directed in the Firing Exercise.

SECTION 1.—THE MANUAL EXERCISE.

By Numbers.

I.

The Order.—The recruit will first fall in as directed in Part I., Section 24. The carbine will then be placed perpendicularly at his right side, the butt on the ground, its toe in line with the toe of the right foot. The right arm to be slightly bent; the right hand to seize the carbine at the upper band, thumb pressed against the thigh, fingers slanting towards the ground.

When the carbine has been properly placed at "The Order," the recruit will be instructed always to fall in on parade, or for drill, with it in that position.

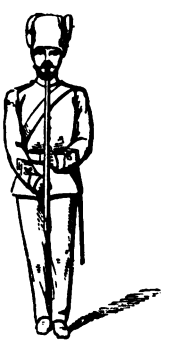
The Order.

The Shoulder.

II.

Shoulder-Arms. *The Shoulder from the Order.*—Give the carbine a cant upwards with the right hand, catching it with the left hand in line with the elbow; at the same time seize the guard with the fore finger and thumb of the right hand, at the full extent of the arm, the remaining fingers under the hammer; the upper part of the barrel to rest in the hollow of the shoulder.

Two. Drop the left hand to the side.



The Present Arms.

III.

Present–Arms. *The Present Arms.*—Seize the carbine with the left hand under the lower band, raising it a few inches by slightly bending the right arm, the muzzle to be brought forward from the arm about four inches; then slip the thumb of the right hand under the hammer, and the fingers under the guard slanting downwards.

Two. Without moving the head, raise the carbine with the right hand perpendicularly in front of the centre of the body, lock to the front; at the same time place the left hand smartly on the stock, the wrist on the trigger-guard, fingers pointing upwards, thumb close to the forefinger (its point in line with the mouth); the left elbow to be close to the butt, the right elbow and butt close to the body.

Three. Bring the carbine down close in front of the centre of the body, guard to the front, as low as the right hand will admit without constraint, and grasp it with the left hand, the little finger touching the projection above the lock-plate, thumb between stock and barrel, the right hand lightly holding the small of the butt, fingers slanting downwards; at the same time place the hollow of the right foot against the left heel, both knees straight. The weight of the carbine to be supported by the left hand.

IV.

Shoulder–Arms. *The Shoulder from the Present Arms.*—Bring the carbine to the right side, and seize it with the right hand as in the first motion of "The Shoulder from the Order" (No. II.), the left hand remaining to steady it to its place, arm close to the body; at the same time bring the right foot to its original position.

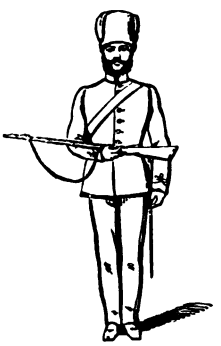
Two. Drop the left hand to the side.

V.

Support-Arms. — *The Support.*—Bring forward the right hand and raise it until the carbine is nearly horizontal, the barrel resting on the bend of the arm.

To stand at ease at "The Support," draw back the right foot and bend the left knee as usual; at the same time place the left hand on the right.

On the command Attention come to the shoulder.



The Support.

VI.

Shoulder-Arms. — *The Shoulder from the Support.*—Bring the carbine to "The Shoulder" (No. II.)

VII.

Order-Arms. — *The Order from the Shoulder.*—Seize the carbine with the left hand, four inches from the muzzle; arm close to the body.

Two. Bring the carbine down in the left hand nearly to the ground, keeping the arm and carbine close to the body; then seize it with the right hand as described in "The Order" (No. I.), and place the

butt quietly on the ground, dropping the left hand at the same time to the side.

Fix Swords.

VIII.

Fix-Swords. *Fixing Swords.*—Place the carbine with the right hand between the knees, guard to the front, and seize the scabbard with the left hand, turning the handle of the sword towards the right front; then seize the handle with the right hand, knuckles downwards, and draw the sword to the front; turn the point upwards when it is well clear of the body, and seize the carbine with the left hand above the upper band. Place the back part of the handle against the lock side of barrel, knuckles to the right, arm close to the body, and slide the spring on to the catch, and the ring on to the muzzle; lastly, seize the carbine with the right hand at the upper band, drop the left hand to the side, and return to "The Order" (No. I.).

IX.

Shoulder-Arms. Two. As detailed in No. II.

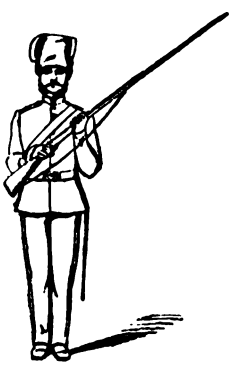
X.

Port–Arms.

Two

The Port.—Seize the carbine as in the first motion of "The Present Arms" (No. III.).

Bring the carbine to a slanting position in front of the body, lock to the front, the barrel crossing opposite the point of the left shoulder, seize it at the same time with the thumb and fingers of the right hand round the small of the butt, the thumb and fingers of the left hand remaining round the carbine; the left wrist to be opposite the left breast, both elbows close to the body.



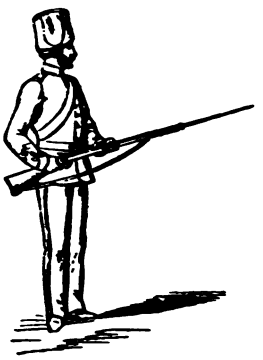
The Port.

XI.

As a Front Rank, Charge–Swords.

The Charge.—Turning on the heels, point the right foot to the right, the left full to the front, and bring the carbine to nearly a horizontal position at the right side, with the muzzle inclining a little upwards; the right wrist to rest against the hollow of the thigh below the hip, the right hand to grasp the small of the butt, the thumb and

fingers of the left hand to be round the carbine.



Charge Swords.

As a Rear Rank, Charge-Swords. Remain steady at "The Port."

XII.

Shoulder-Arms. *The Shoulder from the Charge as a Front Rank.*—Raise the carbine to a perpendicular position at the right side, and seize it with the right hand as directed in the first motion of "The Shoulder from the Order" (No. II.); at the same time turn to the front, the left hand remaining in its place, arm close to the body.

Two. Drop the left hand to the side.

Shoulder-Arms. *The Shoulder from the Port as a Rear Rank.*—Bring the carbine with the left hand to the right side, and seize it with the right hand as directed in the first motion of "The Shoulder from the Order" (No. II.), the left hand remaining in its place, arm close to the body.

Two. Drop the left hand to the side.

XIII.

Slope-Arms. *The Slope.*—Seize the carbine as in the first motion of "The Present Arms" (No. III.).

Two. Bring the carbine on to the left shoulder, and seize it with the left hand, the first two joints of the fingers grasping the inside of the butt, the forefinger half-an-inch from the heel, the thumb in front of the heel, the muzzle slanting to the rear, and the guard pressed gently against the hollow of the shoulder. The upper part of the left arm to be close to the side, the lower part of the arm to be horizontal, the toe of the butt to point to the centre of the left thigh; the right hand holding the small of the butt, thumb and fingers round the stock, arm close in to the body.

Three. Drop the right hand to the side.

The Slope.

XIV.

Shoulder-Arms. *The Shoulder from the Slope.*—Seize the small of the butt with the right hand, fingers and thumb round the stock, arm close in to the body.

Two. Bring the carbine to the right side and seize it as directed in the first motion of "The Shoulder from the Order" (No. II.); the left hand to seize the carbine close above the lower band to steady it to the shoulder.

Three. Drop the left hand to the side.

XV.

Order–Arms.
Two.
As detailed in No. VII.

XVI.

Unfix–Swords.

Unfixing Swords. — Bring the carbine, with the right hand, between the knees, guard to the front. Place the forefinger of the left hand on the spring, and the right hand under the guard of the sword. Tighten the knees on the carbine, press the spring, and gently raise the sword upwards; when clear of the muzzle drop the point, with the edge to the front, towards the scabbard, raising the right elbow as it falls; at the same time seize the scabbard with the left hand and guide the sword into it. Lastly, seize the carbine with the right hand between the bands, and come to "The Order" (No. I.), taking the time from the right.

Unfix Swords.

Of the foregoing motions, Nos. III.–XVI. and XIX. are performed in the "Review Exercise." *See* Section 6.

XVII.

Slope–Arms.

The Slope from the Order.—On the word *Arms*, give the carbine a cant upwards with the right hand, and seize it behind the back-sight; then carry it

to the left side, and seize the butt with the left hand, the first two joints of the fingers grasping the inside of the butt, the forefinger half-an-inch from, the thumb in front of, the heel: at the same time drop the right hand to the side.

Two. Raise the carbine until the guard presses gently against the hollow of the shoulder, muzzle to point to the rear.

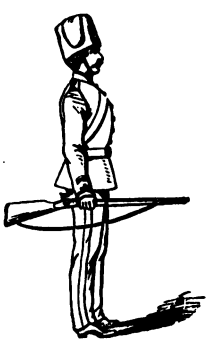
XVIII.

Order-Arms. *The Order from the Slope.*—Drop the left arm to its full extent, and seize the carbine with the right hand between the bands.

Two. Carry the carbine to the right side, and come to "The Order" (No. I.).

XIX.

Trail-Arms. *The Trail.*—Give the carbine a cant upwards with the right hand, seizing it close behind the back-sight, and bring it to a horizontal position at the full extent of the arm, fingers and thumb round the carbine.



The Trail.

XX.

Shoulder-Arms. *The Shoulder from the Trail.*—Bring the carbine to a perpendicular position, and seize it with the left hand close above the lower band, at the same time

raising it slightly, and holding it as directed in the first motion of "The Shoulder from the Order" (No. II.).

Two. Drop the left hand to the side.

XXI.

Trail-Arms. *The Trail from the Shoulder.*—Seize the carbine with the left hand, little finger in line with the right elbow, arm close to the body.

Two. Seize the carbine with the right hand close behind the back sight; then bring it down to "The Trail," at the same time dropping the left hand to the side.

XXII.

Order-Arms. *The Order from the Trail.*—Bring the carbine to a perpendicular position at the right side, allowing it to slip through the fingers to the ground at "The Order" (No. I.).

Arms must never be trailed with fixed swords, except by the front rank before charging.

XXIII.

Shoulder-Arms. *Two.* As detailed in No. II.

XXIV.

Sling-Arms. *The Sling.* — Raising the carbine slightly, turn the sling to the right.

Two. Seize the carbine with the left hand below the lower band, and turn the sling to the rear over the right shoulder; at the same time quitting the right hand.

Three. Seize the sling over the right shoulder with the right hand; and, with both hands, bring the carbine down to the sling, butt close behind the shoulder, muzzle pointing to the ground about six inches in front of the right toe.

Four. Seize the carbine with the right hand and drop the left to the side.

Left, Sling–Arms. — *The Left Sling.* — Seize the carbine as in the first motion of "The Present Arms."

Two. Bring the carbine across the body, turning the barrel to the front, so that the sling may pass over the left shoulder; then seize the sling with the right hand close over the left shoulder.

Three. Bring the carbine down under the left arm, lowering the left hand to its position; and drop the right hand to the side.

XXV.

Shoulder–Arms. — *The Shoulder from the Sling.*—Raise the muzzle perpendicularly, turning the sling to the right, and meeting it with the left hand below the right.

Two. Bring the carbine to the side, turning the sling to the front, and seize it with the right hand at "The Shoulder."

Three. Drop the left hand to the side.

Shoulder–Arms. — *The Shoulder from the Left Sling.*— Raise the muzzle and bring the carbine to the right side with the left hand, seizing it with the right hand at "The Shoulder."

Two. Drop the left hand to the side.

XXVI.

Order–Arms. Two. — As detailed in No. I.

Great care must be taken to preserve the squareness of the body, and to avoid raising or sinking the shoulder, in the foregoing exercises.

XXVII.

Ground–Arms. — *Ground Arms.*—Turn the carbine on the heel, lock to the rear; sink the body, bending both knees; and place the carbine flat on the ground, the lock up, muzzle inclining to the right front, hammer in line with the heels; rise at once, and return to the position of attention.

XXVIII.

Take-up-Arms. { Sink the body as in grounding arms, take up the carbine and come to "The Order" (No. I.).

Stand at Ease.

XXIX.

The Short Trail.—Raise the carbine from the ground, keeping the barrel close to the shoulder.

XXX.

Stand at-Ease. { Push the muzzle of the carbine to the front with the right hand, arm close to the side; at the same time draw back the right foot and bend the left knee as usual.

The Secure.—For the protection of the carbine in wet weather, the soldier will be allowed to carry it as follows:—

The carbine to be under the right arm, butt to the rear, the hammer to be close up under the armpit, the barrel slanting downwards and inclining to the left front; the carbine to be firmly grasped with the right hand, which is to be rather lower than the hip; right elbow a little to the rear. On the word *Change Arms*, the carbine to be carried under the left arm in like manner.

In Quick Time.

The recruit having been thoroughly instructed in the Manual Exercise by Numbers, will be taught to perform

it in Quick Time; the foregoing words of command being given without the numbers, and executed as above detailed, resting a pause of quick time between each motion. A pause of the slow time should be made between the first and last part of each command, except in fixing swords, when longer time should be given.

Motions of the Carbine performed on the March.

The recruit will learn to perform the following motions of the carbine while marching; they may be taught at first while he is marking time. Each motion should be done as the left foot comes to the ground.

When soldiers standing in line with unfixed swords step off from "The Order," they will come to "The Trail" as they take the first step;—when standing in line with swords fixed, or in files, they will come to "The Shoulder;" returning, in each case, to "The Order" when they halt, or halt and front;—when marching in line or to a flank in fours with trailed arms, and ordered to turn into file, or form two deep, they will come to "The Shoulder" as they turn or form, and will trail again on turning from file into line, or forming fours;—when they halt and front from file they will order.

When soldiers standing with shouldered arms receive the command *Slow* (or *Quick*) *March*, they will step off, remaining at "The Shoulder."

When soldiers marching with sloped arms and unfixed swords are halted, they will come to "The Order;" when swords are fixed, to "The Shoulder."

When a soldier with trailed arms is required to turn to the right (or left) about, he will bring his carbine to a perpendicular position by a turn of the wrist on the first pace of the turn, and having completed his turn in three paces, will trail again on the fourth, the pace on which he steps off in his new direction;—if at "The Slope" he will bring the carbine to a perpendicular position on the first pace of the turn, and slope again on the fourth pace.

The above rules will equally apply when the soldier is ordered to mark time from the halt.

When men standing with ordered arms are directed to form fours, to close to the right or left, to step back, or to take any named number of paces to the front, they will come to "The Short Trail."

Soldiers will never be marched off from "The Order" when their arms are loaded, but will be directed to slope.

Skirmishers always move at "The Trail;" supports and reserves, if unloaded, move at "The Trail," if loaded, at "The Slope."

Quick-March or *Quick Mark-Time.* — *From the Halt with ordered Arms.*—Step off (or commence marking time), bringing the carbine to "The Trail" as the first step is taken.

Shoulder-Arms. — *The Shoulder from the Trail.*—As on the halt.

Trail-Arms. — *The Trail from the Shoulder.*—As on the halt.

Change-Arms. — *Changing Arms at the Trail.*—Raise the carbine to a perpendicular position at the right side; carry it to the left side, and pass it into the left hand, then lower it to "The Trail," at the same time dropping the right hand to the side.

Change-Arms. — Change the carbine back to the right side in a similar manner.

Shoulder-Arms. — As already taught.

Slope-Arms. — As on the halt.

Change-Arms. — *Changing Arms at the Slope.*—Pass the left hand up quickly and seize the small of the butt, fingers and thumb round the stock; at the same time seize the butt with the right hand, two first joints of the fingers round the stock, thumb in front of the heel; raise the carbine to a perpendicular position, carry it across the body and place it on the right shoulder, then drop the left hand to the side.

Change-Arms. — Carry the carbine back to the left shoulder in a similar manner.

Squad-Halt. — Halt and come at once to "The Order."

Charging.—Soldiers will be taught to charge as follows:

Fix-Swords. — As already taught.

Shoulder-Arms. — As already taught.

Quick-March. — Step off at "The Shoulder."

As a Front Rank, Prepare to Charge.	Bring the carbine to "The Trail," without losing the square position of the body or the regularity of the step.
Charge.	Bring the carbine to the position of "The Charge" (No. XI.), and break into double time.
As a Rear Rank, Prepare to Charge.	Bring the carbine to "The Slope" as on the halt.
Charge.	Break into the double time, continuing at "The Slope."
Squad–Halt.	Halt and come to "The Shoulder," both as a front and rear rank.

Fixing Swords on the March.—When soldiers are required to fix swords while marching with trailed arms, they will change the carbine into the left hand, then draw the sword with the right hand, bringing it out of the scabbard between the left arm and the body, inclining the barrel of the carbine upwards, muzzle opposite the left breast, and fix the sword as on the halt; this done, they will carry the carbine with the left hand to the right side, seize it at "The Shoulder," and drop the left hand to the side, continuing to move on with shouldered arms.

The Manual Exercise in Two Ranks, and Piling Arms.

1. *Manual Exercise in Two Ranks.*—When recruits have been taught all the motions of the Manual Exercise, either singly or in squads in single rank, they will be practised in squads of two ranks.

2. *Motions of both Ranks the same.*—The motions of the carbine in the Manual Exercise are performed in the same manner by both ranks, excepting in "The Charge."

3. *Piling Arms.*—In addition to the motions of the carbine taught in single rank, the squad in two ranks will be taught to pile arms as follows.

Pile–	On the word *Pile*, the rear rank will take a pace of nine inches to the rear, and the front-rank men will draw back the right foot ready to turn to the right about.
Arms.	On the words *Arms*, the front rank will turn about, bringing their carbines with them at the short trail; the whole will then place the butts of their car-

bines between their feet, locks from them; after which the right file rear rank and the left file front rank will incline their carbines towards each other, and cross rods. This done, the front-rank man of the right file will with his left hand seize the carbine of the front-rank man of his left file by the muzzle, bearing it from him, and with his right hand lock rods by passing his own by the left of the rods and to the right of the muzzles of the other carbines; lastly, the left file rear rank will lodge his carbine between the muzzles of the carbines of the front rank, sling uppermost. When there is an odd file, each man of the file will lodge his carbine against the pile nearest his right hand.

Stand–clear. Ranks take a pace of nine inches and turn to the directing flank.

Stand–to. Ranks will turn inwards, and close on their arms by taking a pace of nine inches forward.

Unpile– On the word *Unpile,* seize the carbine with the right hand under the top band, the front-rank men at the same time drawing back their right feet ready to turn to the right about.

Arms. On the word *Arms,* unlock the rods without hurry, by inclining the butts inwards, and come to "The Order." The front rank will then *front,* and the rear rank close on it by taking a pace of nine inches forward.

In piling arms on parade, the word *Break-off* will be given after *Stand-clear.* On again falling in, the men will place themselves as they stood before breaking off.

It is necessary to be careful in piling and unpiling arms, to prevent damage being done to the rods and sights.

Funeral Exercise.

For the Funeral Exercise, men will be drawn up at open order.

Shoulder-Arms.
Present-Arms.
As usual.

Reverse-Arms. Throw the carbine out to the front to the full extent of the left arm, and give the butt a cant with the right hand towards the body, bringing it inside the left arm, and turning the muzzle straight over to the front; then seize the carbine with the right hand under the lower band barrel to the front, muzzle pointing down, guard as high as the breast, and with the left hand at the hammer; arms close to the body.

Two. Give the carbine a cant under the left arm, bringing the muzzle to the rear, sling uppermost, and with the right hand behind the body grasp the carbine.

Rest on your Arms reversed. Bring the carbine with the left hand to a perpendicular position, and at the same time seize it with the right hand at the heel of the butt. Then lower the carbine until the muzzle rests upon the toes of the left foot, place the left hand open upon the butt, and cover it with the right.

Stand at-Ease. The soldiers' heads will lean on the breast.

Attention. On the word *Attention*, the soldiers will raise their heads.

Reverse Arms. Raise the carbine with the left hand until the guard is as high as the breast, and at the same time seize it at the swell with the right hand. Then seize the hammer with the left hand; give the carbine a cant under the left arm and grasp it with the right hand in rear of the body, as before described.

Rest on your Arms reversed. As before described.

Present Arms. 1st. Grasp the butt with the left hand, and raise it as high as the breast; then seize the small with the right hand, back of it towards the body, forefinger and thumb pointing downwards.

2nd. Turn the carbine with the butt close to the inside of the right arm, in-

	clining the muzzle to the front, to the position of "The Present Arms."
Shoulder–Arms. *Close—Order.* *March.* *Order–Arms.* *Stand at–Ease.*	As usual.

Paying Compliments with Arms.

When a non-commissioned officer, or soldier, passes or addresses an officer, he will do so at "The Shoulder," with the left arm brought across the body, and the hand, fingers extended, meeting the sling of the carbine in line with the right elbow.

SECTION 2.—THE FIRING EXERCISE.

The recruit having acquired a thorough knowledge of the MANUAL EXERCISE, will next be taught the FIRING EXERCISE. The squad to fall in at "The Order."

The recruit will be instructed:—

1stly. To load and fire standing.
2ndly. To load and fire kneeling.

Each of these exercises will be taught:—

1stly. By Numbers.
2ndly. In Quick Time.

Squads are not to be instructed in the Firing Exercise by Numbers, standing or kneeling, except in single rank.

To Load and Fire standing, by Numbers, from "The Order."

Caution,—*Firing Exercise by Numbers.*

At — yards. *Ready.*	Turn on both heels right-half, carrying the carbine round with the body. The right foot to point to the right, the left to the front, eyes to look to the front.
Two.	Advance the left foot six inches, moving the body with it; at the same time bring the carbine to a horizontal position at the right side, with the small of the butt just in front of the hip, grasping the stock with the left hand

between the lower band and the projection in front of the lock plate, thumb between stock and barrel, and half-cock with the thumb of the right hand, fingers behind the trigger-guard. The left elbow to be kept close to the body as a support for the carbine,—the right hand to hold the small of the butt lightly, thumb resting on the comb of the hammer, with the elbow to the rear. Care must be taken not to increase the angle by turning the toes of the right foot to the rear, which might alter the proper position of the right shoulder in firing.

To half-cock, place the thumb of the right hand on the comb of the hammer and draw it back until the sear enters the half bent of the tumbler.

Three. Placing the thumb of the right hand on the thumb-piece of the breech-block (the fingers closed in the hand), open the breech by a sharp turn of the wrist, take a cartridge between the forefinger and thumb, and put it into the barrel, pressing it well home with the thumb; then close the breech, pressing the block firmly home. Lastly, carry the hand to the small of the butt, and hold it lightly with the fingers behind the trigger-guard, thumb pointing to the muzzle:—this, when unloaded, is termed the "Ready position."

Four. Adjust the back-sight,—full-cock with the thumb, fingers behind the trigger-guard,—and fix the eyes steadfastly on some object in front. Thumb to point to the muzzle after cocking.

The back-sight will be adjusted as follows:—With the forefinger and thumb of the right hand, move the sliding bar until the top is even with the line, or at the place on the flanges showing the distance named; then, if necessary, raise the flap carefully, preventing it from springing up with a jerk, and afterwards return the hand to the ready position.

When men are required simply to load, the command will be *Load*, and they will perform the first three motions of the "*Ready*;" when the word *Ready* is given to men

already loaded, they will proceed with the fourth motion. In giving the command *Ready*, some distance should always be named; if the distance be omitted, the soldier must judge it for himself, and adjust his sight accordingly.

Present. Bring the carbine smartly into the hollow of the right shoulder, which must not be allowed to give way (carrying it to the front, so as to clear the body, in doing so), pressing it to the shoulder with the left hand; and at the same instant bring the left elbow under the carbine, and the right elbow nearly square with, and well to the front of the right shoulder to form a bed for the butt, without moving the body or eye; placing the fore-finger round the trigger, but without pressing it; the top part of the heel plate to be in a line with the top part of the shoulder; the right hand to hold the small of the butt lightly, thumb pointing to the muzzle which is to be directed a few* inches below the mark the right eye is fixed upon; the left eye to be closed.

Two. Raise the muzzle steadily, until the top of the fore-sight is brought in a line with the object through the notch or over the centre white line of the back-sight, pressing the trigger at the same time without the least motion of the hand, eye, or arm, until the hammer falls, still keeping the eye fixed on the object. The breathing to be restrained in performing this motion.

Three. Bring the carbine to a horizontal position at the right side, — half-cock, — open the breech, — and holding the breech-block firmly with the forefinger and thumb, by the thumb-piece and nipple-lump, draw it back as far as possible with a jerk, raising the muzzle of the carbine slightly in doing so, to remove the empty cartridge-case,—let the breech-block go back, and at the same

* When aiming at short distances, one or two inches will be sufficient.

time cant the carbine sharply over to the right by a turn of the wrist, to allow the case to fall out, bringing the carbine again to the horizontal position, then close the breech, shut down the flap of the back-sight, if raised, without moving the sliding bar,—and carry the hand to the "*Ready*" position.

When the word *Ready* is given to men at the third motion of the "*Present*," they will proceed with the third and fourth motions of the "*Ready*," but when required to "Order" they will first ease springs, if unloaded.

As the first motion of the "*Present*" will not be learned without practice and much care, the instructor will frequently give the command *As you were*, when the recruit will bring the carbine to the right side without moving any part of his body but his arms, or his eyes from the object to be aimed at. The instructor will then point out the defects observed. By this means the recruit will soon be accustomed to get into the position readily, and will acquire a full command of his carbine with the left hand.

The squad will also be brought back to the "*Ready*" by the command *As you were* after the first and second motions of the "*Present*," for the instructor to explain the motion that follows next in order; the recruits maintaining the erect position of the body, and keeping the eyes fixed on the object they are to aim at.

The most minute attention is to be given to each man's position when at the present, more especially to see that the body is firm and erect, that the sights are upright, that the carbine is pressed firmly to the shoulder with the left hand, so as to resist the recoil on the explosion of the powder; that the trigger is pressed steadily without the slightest motion of the hand or arm while the muzzle of the carbine is being raised, and until the hammer falls; and that the eye is fixed upon the mark during and after snapping, to ascertain if the aim has been deranged by the movement of the trigger or body. The position of the head with reference to the butt, when taking aim, must depend entirely on the elevation used. With small elevation, the butt must be brought to the head by raising the shoulder; or the cheek must be so placed on the butt, by bending the head a little forward (not sideways), as to get the eye fixed on the object through the notch of the back-sight; as the distances increase, the head must be raised or the shoulder lowered.

Too much pains cannot be taken to ensure that the soldier takes a deliberate aim at some object whenever he brings the carbine to the "*Present:*" for this purpose, small bulls-eyes are to be marked on the barrack wall.

To Order Arms from the third position of the "Present,' standing.

Order–Arms.	On the word *Arms,* turn on the right heel to the front; at the same time bring the left foot back to the right, seize the carbine with the right hand close in front of the left, and come to "The Order" as detailed in the Manual Exercise.

To come to the "Ready" standing by Numbers, from "The Shoulder."

By Numbers, *At — yards.* *Ready.*	Turn on both heels half right, and at the same time seize the carbine with the left hand under the lower band, bending the right arm slightly to do so.
Two. *Three.* *Four.*	Proceed as detailed in the 2nd, 3rd, and 4th motions of the "*Ready*" (No. 1).

To Fire a Volley standing, and Order by Numbers.

Caution,—*By Numbers, Fire a Volley.*

At — yards. *Ready.* *Two.* *Three.* *Four.*	As before detailed.
Present. *Two.*	As before detailed.
Three.	As before detailed: then rest a pause of slow time, and, taking the time from the right, turn on the right heel to the front, and order.

To Half-cock Arms when at the "Ready."

Half-cock–Arms.	Place the thumb of the right hand on the comb of the hammer, and the fore-finger on the trigger, and draw both

back until the sear is disengaged from the full bent of the tumbler,—then let the hammer gently down until it passes the half bent, and (removing the forefinger from the trigger) draw it back to the half bent again,—shut down the flap of the back-sight if raised,—and carry the hand to its original position.

To Ease-springs when at the Half-cock.

Ease-springs. Place the thumb of the right hand on the comb of the hammer, and the forefinger on the trigger, and draw both back until the sear is disengaged from the half bent of the tumbler,—then let the hammer gently down (removing the forefinger from the trigger) on the nipple,—and carry the hand to its position at the "*Ready.*"

To unload Arms.

Unload–Arms. When at the "*Ready,*" half-cock:—open the breech,—and proceed as detailed in the 3rd motion of the "*Present*" (No. 1); but allowing the cartridge, on being withdrawn, to fall into the hand, and replacing it in the pouch after closing the breech.

To Load and Fire standing, in Quick Time.

The recruit having thoroughly learned the Firing Exercise by Numbers, standing, will next be taught to perform it in Quick Time by the following words of command, which are to be executed as before detailed, resting a pause of quick time between each motion.

Caution,—*Firing Exercise.*

At — yards.
Ready. — In four motions.

Present. — In three motions.

Order–Arms. — In one motion.

Fire a Volley,
At — yards.
Ready. — In four motions.

Present. — In three motions: then turn to the front and order.

To Load and Fire kneeling, by Numbers.

The squad being at "The Order" or "The Shoulder," will be instructed as follows.

Caution,—*Firing Exercise by Numbers, kneeling.*

At — yards. / *Ready.* — Proceed as detailed for the first motion of the "*Ready*" from "The Order" or "The Shoulder" (No. 1 or No. 3).

Two. — Bring the carbine to a horizontal position at the right side as in the second motion of the "*Ready*" from "The Order" (No. 1); at the same time, sink on the right knee twelve inches to the rear and six to the right of the left heel, and square with the right foot, bringing the weight of the body at once on the right heel, and place the left fore-arm six inches behind, and nearly square with the left knee, the butt to rest against the right side.

Three. / *Four.* — As detailed when firing standing.

The length of the leg in very tall men being greater than the breadth of the body, they have not room, in rank, to get the knee square with the foot; in such cases, the knee will be inclined to the front, but not beyond the inside of the right foot of the man on the right.

Present. — As detailed when firing standing, placing the left elbow at once over the left knee as a support. The body is not to be raised off the heel in bringing the carbine to the shoulder.

Two. — As detailed when firing standing.

Three. — As detailed when firing standing, bringing the left forearm on the left thigh as above directed in the second motion of the "*Ready*" kneeling.

The instructions which follow the "*Present*" standing are applicable to this position when on the knee.

When required to come to the "*Ready*" kneeling, from the "*Ready* position" standing, the left foot will be brought back to the right before sinking on the knee.

To Order Arms, from the third position of the "Present" kneeling.

Order–Arms. — On the word *Arms*, spring to *Attention*, turning on the left heel to the front, and order as before detailed.

11. *To Fire a Volley kneeling, and Order by Numbers.*

Caution,—*By Numbers kneeling, Fire a Volley.*

At — yards.
Ready.
Two.
Three.
Four. — As before detailed.

Present.
Two. — As before detailed.

Three. — As before detailed: then rest a pause of slow time, and taking the time from the right, spring to *Attention*, turning on the left heel to the front, and order.

To Load and Fire kneeling, in Quick Time.

The recruit having been thoroughly instructed in the motions of firing and loading on the knee by Numbers, will next be taught to perform them in Quick Time, by the following words of command, which are to be executed as before detailed, resting a pause of quick time between each motion.

Caution,—*Firing Exercise, kneeling.*

At — yards.
Ready. — In four motions.

Present. — In three motions.

Order–Arms. — In one motion.

Kneeling, Fire a Volley.
At — yards.
Ready. — In four motions.

Present. — In three motions: then spring to *Attention* to the front, and order.

Loading and Firing in Two Ranks.

When the recruit has learned all the motions of the Firing Exercise, standing and kneeling, in single rank, he will practise them in two ranks; also the following modes of firing:—

1. Volleys.
2. Independent firing.

In both Volley and Independent firing, the front rank will sink on the knee on the word *Ready*.

In firing volleys or independently, the number of rounds will always be specified. When the order is to fire more than one round, the breech is not to be closed at the 3rd motion of the "*Present*," nor the flap of the back-sight, if raised, to be put down, until after the last round. In all cases, on ceasing to fire, the men will order without word of command; first, if necessary, removing the cartridge-case (or unloading), closing the breech, easing springs, and putting down the flap of the back-sight. In coming to "The Order" after Volley firing, the directions given in Nos. 4 and 11 will be observed; after Independent firing, the men will order independently.

If men have been brought to the "*Ready*," and are not required to fire, they will unload by word of command.

The mode of firing in square is detailed in Section 3.

The "Present," standing; the "Ready," kneeling.

Independent Firing, standing or kneeling.

Caution,—*Rounds, Independent firing.*

At — yards.
Ready. } As before detailed.

Commence. Each man of the front rank will come to the "*Present*," independently of his right or left hand man, and when he returns to the "*Ready*" position his rear-rank man will come to the "*Present*."

NOTE.—In Volley firing the time is not to be taken from any particular man, but each man will after coming to the "Present" when taking aim rest three pauses of slow time before firing.

After the first round, the men of a file will fire independently until the "Cease fire" is ordered. It is to be observed that the object of independent firing is that each man should take a calm and deliberate aim; all hurry is to be avoided.

Cease-fire. As detailed in No. 13.

When firing independently, the commands *Fire* and *Cease fire* will be given on the bugle or trumpet.

The Firing Review Exercise is detailed in Section 6.

SECTION 3.—PREPARING FOR CAVALRY.

The recruits, having a thorough knowledge of the different modes of firing in the ranks, will now be formed into four ranks, and practised to receive cavalry, as in square, two and four deep.

This practice will be commenced on the march with trailed arms; on the command *Halt,* or *Halt, Right-about-turn,* the men will order arms and fix swords. When the movement is performed from the halt, the leading company will order and fix swords when the remainder get the command *Quick-March.* The men who halt without word of command will, in either case, order and fix as they halt.

Prepare for—Cavalry. If the square is four deep the second and fourth ranks will take a pace of nine inches to the front.

The first and second ranks will then sink at once upon the right knee, as detailed in Section 2, No. 9, but without bringing the weight of the body on the heel (the right knee of the second rank to be 12 inches to the right when on the ground); and, at the same time, place the butts of their carbines on the ground against the inside of their right knees, locks uppermost, with the muzzles slanting upwards, so that the point of the sword may be about the height of a horse's nose; the left hand to grasp the carbine firmly immediately above the lower band, the right hand to hold the small of the butt, the left arm to rest upon the thigh about six inches from the knee.

Ready. — The third rank will come to the "*Ready*" position (the muzzles of their carbines slightly inclined upwards).

When men standing with unfixed swords are ordered to prepare for cavalry, they will at once fix, then proceed as above described.

If the square is required to fire, unless it is intended to fire from all faces of the square at once, the caution—*Face* (or *Faces*) will precede the caution to fire.

—Rounds, Independent firing.
At — yards.
Ready.
Commence.
Cease—fire.
or
Fire a Volley.
At — yards.
Ready.
Present.

The third rank of each face, or of the named face (or faces), will proceed as before detailed. Any face of the square that may not have been required to fire will order at the same time as the remainder.

Kneeling Ranks (or, *Kneeling Ranks of the — face,* or *faces*)— *Fire a Volley.*

This caution to be given, should it be deemed necessary for the front kneeling rank to fire a volley.

At — yards.
Ready.

As before detailed: and bringing the weight of the body on the right heel.

Present.

As before detailed: then bring the carbine again to resist cavalry.

Order—Arms.

As before detailed.

If considered expedient, the front standing and kneeling ranks may fire volleys alternately; time being allowed between the rounds for the smoke to clear away.

The above detail applies equally to squares less than four deep, with the exception that the front rank only will kneel to resist cavalry.

SECTION 4.—A FEU-DE-JOIE.

For this mode of firing the line will be drawn up as described in Part IX., Section 4, except that the commanding officer will take post in the rear.

With Blank Cartridge, Ready.

Muzzles of carbines to slant upwards when loading, and to remain so.

Present. { Carbines to be elevated at an angle of 45°.

The right-hand man of the front rank commences the fire, which will run down the front and up the rear as quickly as possible. When the right-hand man of the rear rank has fired, the whole will glance their eyes to the right to bring the carbine to the "Ready Position," remove the cartridge-case, &c.

Ready.
Present. } As before directed.

The same to be repeated a third time.

Order–Arms.

The commanding officer will then move to the front and give the following commands :—

Shoulder-Arms.
Present–Arms.
Shoulder–Arms.
Order–Arms.
Three cheers.

When 21 guns are to be fired, seven will be fired before each round of the Feu-de-joie.

SECTION 5.—CARBINE EXERCISES FOR SERGEANTS.

Sergeants, when moving with their companies or with the battalion, will remain with unfixed swords, except while in a square, in which case they will have their swords fixed.

Sergeants will stand at ease and come to attention with the men, they will also shoulder arms, slope or trail arms, and order arms with them. The sergeants, during the performance of the Manual and Firing Exercises by the rank and file, will remain steady at "The Shoulder."

Recover–Arms. { *The Recover.*—Sergeants will recover arms as follows:—Seize the carbine as directed in the first motion of "The Present Arms," then raise it perpendicularly in front of the face, right hand grasping the small of the butt, thumb as high as the mouth, barrel to the front; at the same time place the left hand under the butt, thumb in front of the heel, first two joints of the fingers round the side of the butt.

While a sergeant marking a point is extending an arm, he will hold his carbine by the small of the butt with the other hand, resting the toe against his chest.

SECTION 6.—REVIEW EXERCISE.

At inspections or reviews the Manual and Firing Exercise will be performed in Quick Time. The men standing at "The Order" will be ordered to shoulder; after which the words of command will be as follows:—

Caution.	MANUAL—EXERCISE.
I.	PRESENT—ARMS.
II.	SHOULDER—ARMS.
III.	SUPPORT—ARMS.
IV.	SHOULDER—ARMS.
V.	TRAIL—ARMS.
VI.	SHOULDER—ARMS.
VII.	ORDER—ARMS.
VIII.	TRAIL—ARMS.
IX.	ORDER—ARMS.
X.	FIX—SWORDS.
XI.	SHOULDER—ARMS.
XII.	PORT—ARMS.
XIII.	CHARGE—SWORDS.
XIV.	SHOULDER—ARMS.
XV.	SLOPE—ARMS.
XVI.	SHOULDER—ARMS.
XVII.	ORDER—ARMS.
XVIII.	UNFIX—SWORDS.
	CLOSE—ORDER. MARCH.

Caution.	FIRING—EXERCISE.
	FIRE A VOLLEY.
	AT 300 YARDS.
	READY. PRESENT.
	or FIRE—VOLLEYS.
	AT 300 YARDS.
	READY. PRESENT,
	&c.
	STAND AT—EASE.

SECTION 7.—INSPECTION OF A BATTERY ON PARADE.

The battery to fall in, as at "The Order," Part IX., Sec. 3.

Fix-Swords.

The inspecting officer will now pass down the ranks to ascertain that the appointments, clothing, &c., are clean, and in good order.

Unfix-Swords.

Shoulder-Arms.

For Inspection, Port-Arms. When at "The Port," half-cock the carbine, and open the breech, holding the block between the forefinger and thumb of the right hand by the thumbpiece and nipple-lump.

The officer will again go down the ranks to see that the breech-shoe and breech-block are free from rust, and otherwise clean, also to see that the breech-block is free in its action. Each soldier, as the officer approaches within one file of him, will turn the barrel of his carbine full to the front with his left hand, lock downwards, and draw back the breech-

block with his right hand. As the officer passes, each soldier will let go the breech-block, and seize the small of the butt with the right hand, thumb pointing to the muzzle.

Examine-Arms. Both ranks will come to the position of "The Charge," with the muzzle of the carbine so inclined as to enable the officer to look through the barrel. The rear-rank men, in turning to the right, will raise their carbines perpendicularly, so as to clear the front-rank men when coming down to the charge.

Examine Arms.

The officer will now proceed to look through each barrel to see that it is clean and free from rust. The soldier, when the officer passes the file nearest to him, will close the breech,—case springs,—order arms,—and stand at ease.

SECTION 8.—DISMISSING A BATTERY OFF PARADE.

Right-Turn. As usual.

Dismiss. On the word *Dismiss*, the whole will bring the carbines to "The Trail;" the front rank springing off to the left, the rear rank to the right; the men will then break off and quit the parade without noise.

SECTION 9.—INSTRUCTIONS FOR CLEANING THE CARBINE.

Half-cock the carbine, and open the breech.

Put a piece of rag into the jag of the cleaning rod, twisting it round so as to cover it, and rub the barrel

carefully up and down with it to remove the fouling. No water to be used, except after firing blank cartridge. In this case the carbine is to be held muzzle downwards at a convenient angle, with the breech-block open, and water poured through the barrel, without however wetting the breech-block, or other parts of the breech arrangement. A wetted rag is then to be placed on the muzzle and pressed into the bore with the head of the rod, care being taken that the head is covered. Should the rod stick fast in the barrel, no attempt is to be made by the soldier to drag it out by extreme force, but the armourer is to be called upon to remove it.

Replace the afore-mentioned rag by an oil rag, woollen if possible, and pass the latter a few times up and down the barrel.

Wipe the breech-shoe and breech-block all over with an oil rag, to remove dirt and prevent rust.

Close the breech, and ease springs.

GUARDS.

SECTION 10.—MARCHING RELIEFS.

A relief will march with trailed arms; if it consists of less than four men it will march in line, the corporal on the right; if of four men or more, in half-sections, sections, or fours, according to its strength. When the first relief of a new guard is sent out, a corporal belonging to the old guard will accompany it to bring in the relieved sentries. As soon as all the sentries are relieved, the corporals will change places, and the corporal of the old guard will take command. If the relief is armed with swords, they will be carried at the slope.

SECTION 11.—RELIEVING AND POSTING SENTRIES.

On the approach of the relief, a sentry will place himself with shouldered arms in front of his sentry box. The corporal of the relief will proceed as follows:—

Shoulder–Arms. } At about ten paces from the sentry.

Relief–Halt. At about six paces from the sentry.

The old sentry, and the man who is to relieve him, will port arms, the latter moving out from the relief and placing himself at

Sentries, Port-Arms. — one pace from the former, turning towards him; the old sentry will then give over his orders, the corporal referring to the board of orders to see if they are correctly given.

Pass. — On this word, the old sentry will take one pace to his left, and the new sentry will take one pace to his front.

Shoulder-Arms. Front. — The sentries will then be ordered to shoulder arms and front, the old sentry taking his place in rear of the relief.

Relief, Quick-March. Trail-Arms. — The relief will be marched on, and when it has proceeded about ten paces will be ordered to trail arms.

The proper front of a sentry's post, and the extent of his walk, should be pointed out to him when he is posted.

Sentries walking backwards and forwards on their posts, must do so in a brisk and soldier-like manner; they must on no account quit their arms, lounge, or converse with any one, nor must they stand in their sentry boxes in good or even in moderate weather. Sentries are permitted to support arms, or to order their arms and stand at ease.

SECTION 12.—SENTRIES PAYING COMPLIMENTS.

On the approach of an officer, when he is at least fifteen paces distant, a sentry, if on the march, will halt, front, and shoulder arms; if standing at ease with ordered arms, he will come to attention and shoulder. To field officers and other officers of the army and navy entitled to the salute, he will present arms.

To all armed parties, whether they are commanded by an officer or not, a sentry will present arms, and the party will return the compliment, when marching at the trail or support, by shouldering arms. Parties with side arms are to be considered as armed parties.

To all unarmed parties a sentry will shoulder arms, unless they are commanded by field officers, in which case he will present; in return the commander of the party will give the word "*Eyes Right*," or "*Eyes Left*," as the case may be, and having passed him, "*Eyes Front*."

Sentries will not present arms to any officer after sunset; but as long as they can discern an officer, they will come

to their front on his approach, and stand steady with shouldered arms till he has passed.

Sentries in their sentry boxes will salute by coming smartly to attention.

SECTION 13.—SENTRIES CHALLENGING.

When it gets dark, the sentries will challenge in the following manner:—On the approach of any person the sentry will port arms and call out in a sharp tone, "*Halt. Who comes there?*" If the person approaching gives a satisfactory reply, the sentry will say "*Pass friend: All's well,*" remaining at the port till he has passed.

If the person approaching answers "*Grand* (or *visiting*) *rounds,*" when there is no countersign, the sentry will say "*Pass grand* (or *visiting*) *rounds: All's well,*" shouldering his arms at the same time, and presenting as they pass if they are grand rounds; but when there is a countersign he will say "*Stand grand* (or *visiting*) *rounds: Advance one and give the countersign,*" at the same time remaining at the port; in this position he will receive the countersign, and if it is correct will say "*Pass grand* (or *visiting*) *rounds,*" and proceed as above described.

If the sentry is on or near the guard-room door, he will proceed as described in Section 15.

SECTION 14.—INSTRUCTION OF RECRUITS AS SENTRIES.

Recruits should be instructed in their duties as sentries. The instructor will post them in different parts of the barrack yard, giving each of them some particular orders to attend to, and will teach them what is laid down in the preceding Section.

SECTION 15.—GUARDS TURNING OUT.

When guards turn out they will fall in with shouldered arms at open order, and will pay the compliments laid down in the "Queen's Regulations;" guards will not turn out after sunset, except on the approach of a body of troops, in cases of alarm, or to receive grand or visiting rounds.

The following form will be observed when a guard is visited by the field officer or captain of the day, called grand or visiting rounds. On the approach of the rounds the sentry on, or near, the guard-room door will port arms, and challenge "*Halt.*" "*Who comes there?*" The officer will answer, "*Grand* (or *visiting*) *rounds,*" as the case may be; and if there is no countersign, as soon as it has fallen in, the commander will call out, "*Advance grand* (or *visiting*)

rounds: All's well." To grand rounds he will present, to visiting rounds he will remain at the shoulder.

If there is a countersign to be given, a corporal or sergeant will be sent out with the right, or left, file of the guard, according to the position of the rounds; he will move next to the front-rank man; when at about ten paces from the rounds he will order his men to halt and port arms, and will then repeat the challenge "*Who comes there?*" "*Grand* (or *visiting*) *rounds.*" "*Stand grand* (or *visiting*) *rounds: Advance one and give the countersign;*" the officer, or the non-commissioned officer accompanying the rounds, will then advance and give the countersign, the two men of the file at the port as he advances; the non-commissioned officer of the escort will go back and repeat the countersign to the commander of the guard, who (if the word is correct) will call out "*Advance grand rounds* (or *visiting rounds*): *All's well.*" The non-commissioned officer of the escort, having returned to his men, will then order them to shoulder arms, turn inwards, and step back three paces each. The rounds will pass between them. If they are grand rounds, the escort will be ordered to present; the guard will also present to grand rounds as they approach. As soon as the rounds have passed, the escort will be ordered by a non-commissioned officer to shoulder (if they have presented), turn inwards, march back, and fall in on the flank of the guard, taking up "the present arms," if the rest of the guard are at the present; the guard will then be dismissed.

FUNERALS.

SECTION 16.—FUNERAL PARTIES.

The party appointed for the escort, according to the rank of the deceased, will be drawn up in two ranks at Order, facing the house or marquee where the corpse is lodged. Small parties will be formed with their files extended at one side pace from each other. When the corpse is brought out, the officer commanding will proceed as follows:—

Present–Arms. } As usual.

Reverse–Arms. } As detailed in the *Carbine Exercise.* The officers' swords are reversed under the right arm, the point of the sword downwards, the hilt being grasped with the right hand.

Close Order–March.

Large funeral parties will march by divisions, fours, or sections, which will be placed at the head of the procession.

Small parties, after the men have reversed arms, will

simply be turned to the left, and moved to the head of the procession.

Slow–March. — The party will move off in slow time followed by the music, with drums muffled, playing the Dead March.

The remainder of the procession will be formed as follows:—

THE CORPSE.

Pall-bearers of equal rank with the deceased on each side of the corpse.

CHIEF MOURNERS.

Officers, or non-commissioned officers, two and two, according to rank, the juniors in front.

Divisions Right or Left Wheel, or Fours Right or Left–Halt. Front Rank Right-about–Turn. Front or Rear Rank Four Paces to the Rear. March. — When the head of the procession arrives near the burial-ground, if the escort is formed in divisions, or fours, they will be ordered to wheel to the right or left and halted, the ranks turned inwards and the front or rear rank ordered to step back four paces, or more if necessary, forming a lane for the corpse to pass through.

If the party is formed in files, the ranks will incline outwards, and will then be halted and turned inwards.

Rest on your Arms Reversed. — As detailed in the *Carbine Exercise.*

Stand at–Ease. Attention. — As detailed in the *Carbine Exercise;* the head being turned so as to look towards the corpse. The corpse, and the remainder of the procession, having passed through the lane, the word *Attention* will be given, on which the soldiers will raise their heads, and drop their right arms to the side.

Reverse–Arms.

Ranks Right and Left–Turn. Slow–March. Halt–Front. — The ranks will then be turned towards the grave and move in slow time, the front rank inclining towards the rear rank till at two paces distance from it; the escort will be halted and fronted, in open order, near the grave and turning towards it.

Rest on your Arms Reversed. Stand at–Ease. — As before described.

The funeral service will be performed, after which the escort will proceed as follows:—

Attention.	As already described.
Present—Arms.	As detailed in the *Carbine Exercise.*
Shoulder—Arms.	As usual.
With Blank Cartridge, Ready.	As usual.
Fire Three Volleys in the Air.	As usual.
Present.	Fire, elevating the muzzle in the air.

After firing three rounds, the men will be directed to shoulder arms, and the ranks will be closed. The escort will then be marched back to camp or barracks, in fours, sections, or half sections, in quick time.

In marching back, the music is not to play until the party is entirely clear of the burying-ground.

N.B.—In the funerals of general officers, the arrangements of the prescribed number of guns, and of the different troops, must be made under the superintendence of the general officer commanding the whole, and must necessarily depend on local circumstances.

SWORD EXERCISE.

INTRODUCTORY REMARKS.

The following instructions are progressively laid down as the surest and quickest mode of forming swordsmen; and the drill officers are to understand clearly, that when recruits have completed their Preparatory and Drill Practices, *without* and *with* the sword, they need no longer be required to remember the precise order in which they are here given; nor to repeat them, if sufficiently competent to go through the Review Exercises effectively, where every cut, point, and guard is shown; and the swordsman ought to be made so perfect in each, as to be able to give any one separately, or such of them combined, as the drill officer may require.

SECTION 17.—EXTENSION MOTIONS.

These motions tend to expand the chest, raise the head, throw back the shoulders, and strengthen the muscles of the back.

The squad being at "Attention," the caution is given:

First Extension Motions.

One.—Bring the hands, arms, and shoulders to the front, the fingers lightly touching at the points, and the nails downwards; then raise them in a circular direction well above the head, the ends of the fingers still touching, the thumbs pointing to the rear, the elbows pressed back, and shoulders kept down.

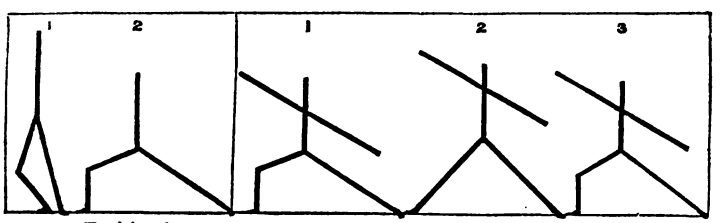
Two.—Separate and extend the arms and fingers upwards, forcing them obliquely back, until they come extended on a line with the shoulders; and as they fall gradually from thence to the original position of "Attention," endeavour, as much as possible, to elevate the neck and chest.

Three.—Turn the palms of the hands to the front, and press back the thumbs with the arms extended, and raise them to the rear until they meet above the head; the fingers pointing upwards, and the thumbs locked with the left in front.

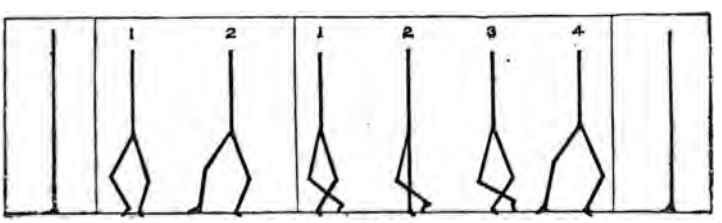
Four.—Keep the knees and arms straight, and bend over until the hands touch the feet, the head being brought down in the same direction, and resume the "Third Motion," by raising the arms to the front.

Five.—Resume the position of "Attention," as directed in "Second Motion."

The whole of these motions should be done very gradually, so as to feel the exertion of the muscles throughout, and the "First" and "Second" occasionally practised with the head turned, as much as possible, to the right or



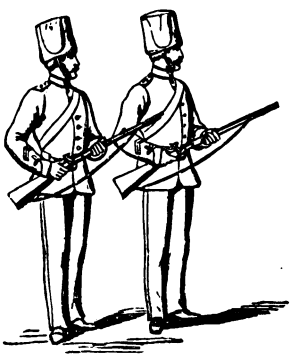
Position in Two Motions. Second Extension Motions.



First Position. Second Position in Two Motions. Balance Motions. First Position.

block with his right hand. As the officer passes, each soldier will let go the breech-block, and seize the small of the butt with the right hand, thumb pointing to the muzzle.

Examine-Arms. Both ranks will come to the position of "The Charge," with the muzzle of the carbine so inclined as to enable the officer to look through the barrel. The rear-rank men, in turning to the right, will raise their carbines perpendicularly, so as to clear the front-rank men when coming down to the charge.



Examine Arms.

The officer will now proceed to look through each barrel to see that it is clean and free from rust. The soldier, when the officer passes the file nearest to him, will close the breech,—ease springs,—order arms,—and stand at ease.

SECTION 8.—DISMISSING A BATTERY OFF PARADE.

Right-Turn. As usual.

Dismiss. On the word *Dismiss*, the whole will bring the carbines to "The Trail;" the front rank springing off to the left, the rear rank to the right; the men will then break off and quit the parade without noise.

SECTION 9.—INSTRUCTIONS FOR CLEANING THE CARBINE.

Half-cock the carbine, and open the breech.

Put a piece of rag into the jag of the cleaning rod, twisting it round so as to cover it, and rub the barrel

carefully up and down with it to remove the fouling. No water to be used, except after firing blank cartridge. In this case the carbine is to be held muzzle downwards at a convenient angle, with the breech-block open, and water poured through the barrel, without however wetting the breech-block, or other parts of the breech arrangement. A wetted rag is then to be placed on the muzzle and pressed into the bore with the head of the rod, care being taken that the head is covered. Should the rod stick fast in the barrel, no attempt is to be made by the soldier to drag it out by extreme force, but the armourer is to be called upon to remove it.

Replace the afore-mentioned rag by an oil rag, woollen if possible, and pass the latter a few times up and down the barrel.

Wipe the breech-shoe and breech-block all over with an oil rag, to remove dirt and prevent rust.

Close the breech, and ease springs.

GUARDS.

SECTION 10.—MARCHING RELIEFS.

A relief will march with trailed arms; if it consists of less than four men it will march in line, the corporal on the right; if of four men or more, in half-sections, sections, or fours, according to its strength. When the first relief of a new guard is sent out, a corporal belonging to the old guard will accompany it to bring in the relieved sentries. As soon as all the sentries are relieved, the corporals will change places, and the corporal of the old guard will take command. If the relief is armed with swords, they will be carried at the slope.

SECTION 11.—RELIEVING AND POSTING SENTRIES.

On the approach of the relief, a sentry will place himself with shouldered arms in front of his sentry box. The corporal of the relief will proceed as follows:—

Shoulder-Arms. } At about ten paces from the sentry.

Relief-Halt. At about six paces from the sentry.

The old sentry, and the man who is to relieve him, will port arms, the latter moving out from the relief and placing himself at

Third—Come to "Third Position."
Second „ "Second Position."

Single Attack—Raise the right foot and beat it smartly on the ground.

Double Attack.—Raise the right foot as before, and beat it twice on the ground—first with the heel, then with the flat of the foot.

Advance.—Move forward the right foot about six inches, and place it smartly on the ground; then bring up the left foot lightly about the same distance.

Single Attack.—As before.

Retire.—Move the left foot lightly to the rear about six inches, the weight and balance of the body being, and continuing to rest, upon it; then move the right foot back the same distance, and place it smartly on the ground.

Double Attack.—As before.

Front.—Resume position of "Attention."

The object of the preceding positions and movements is to give a free and active use of the limbs preparatory to using the sword.

The instructor shall prove the firmness of the position by bearing equally and firmly upon the shoulders of the recruit during the changes in forming the "Positions" and "Balance Motions;" by taking hold of his right wrist with both hands, (when in the "First" of the "Second Extension Motions,") and bearing upon it, in the direction of the left leg, upon the line of which the right arm should be, if properly placed; and by making him also in each position move the fore part of the right foot up and down, without its motion affecting the body, which must be generally balanced, and rest upon the left leg, thereby giving greater flexibility to the right leg in moving forward to gain distance upon an adversary—or *vice versâ*, in retiring from his reach. No precise length can be assigned in moving the right leg to the front in the "Third Position," as it depends upon the length and stride of the person; but it should not be beyond what may allow of his returning to the "First" or "Second Position" with quickness and perfect facility to himself.

When this section is practised as a drill for the limbs only, it should be performed with the left shoulder and left foot to the front, as well as with the right.

SECTION 18.—PREPARATORY DRILL ON FOOT.

The recruit having been perfectly instructed in the Marching and Position Drill, may now take the sword.

The squad will be formed up at open files "Standing at Ease," the sword hanging by the slings, the palm of the left hand resting on the sword hilt, the right arm hanging by the side, the right foot drawn back six inches, the left knee bent.

Attention.—The sword to be brought upright by the side, the bottom of the scabbard resting on the ground, in front of the heel of the boot, the left arm extended, the hand round the scabbard, thumb in front, fingers in the rear.

March.—Raise the sword smartly with the left hand at the first pace, without stooping or disturbing the position of the body, placing the forefinger below the lower ring of the scabbard, the thumb and remaining fingers round it, the hilt touching the back part of the arm.

Halt.—Lower the scabbard to the ground, as in the position of "Attention."

Draw Swords.—Raise the scabbard about six inches from the ground, with the forefinger under the top ring, the hilt slightly thrown forward, bringing the right arm at the same time smartly across the body to the sword knot, placing it on the wrist, and giving the hand a couple of turns inwards to make it fast; and as the handle is grasped, turn the hilt to the rear, and raise the hand the height of the elbow, the arm being close to the body; by a second motion draw the sword from the scabbard with an extended arm, the edge being to the rear, and sink the hand until the hilt is on a level with the chin, the blade perpendicular, the edge to the left, and elbow close to the body, which forms the position of "Recover Swords;" then by a third motion bring the sword smartly down until the hilt is on a line with the elbow, the arm close to the body, blade perpendicular, the edge slightly inclined to the left, which forms the position of "Carry Swords." At the same time bring the scabbard to the side in the same position as directed for "Attention" before drawing swords.

Slope Swords.—Loosen the grasp of the handle, and let the back of the sword fall lightly on the shoulder.

Stand at Ease.—Keeping the sword at the "Slope," resume in other respects the position of "Stand at Ease" before drawing swords: the right foot drawn back six inches, the left knee bent, the palm of the left hand resting on the top of the scabbard.

This position of standing at ease is always to be adopted on foot with swords drawn, both in the ranks and at open files, as when formed for the Sword Exercise.

Attention. — Come smartly to the position of "Slope Swords," with the scabbard upright by the left side.

Carry Swords.—By a motion of the wrist and fingers, resume the grasp of the handle, so as to bring the blade upright, as before.

Return Swords.—Carry the hilt to the hollow of the left shoulder, the blade being kept perpendicular, and the back of the hand to the front, then by a quick turn of the wrist, drop the point into the scabbard, and resume the first motion in "Draw Swords;" by a second motion let the sword fall smoothly from the hand, at the same time loosening the sword knot from the wrist; by a last motion come smartly to the position of "Attention."

N.B.—In marching with swords drawn, the scabbard is to be raised on the word "March," and lowered to the ground on the word "Halt," in the same manner as described for marching with swords not drawn.

Cuts—Guards—Points.

The recruit having been perfectly instructed in drawing and returning his sword, will now be made acquainted with the strong and weak parts of it; the "Fort" (strong) being the half of the blade near the hilt, the "Feeble" (weak), the half towards the point; indeed, a knowledge of these distinctions is very material either in giving or guarding a cut, as much depends upon their proper application. From the hilt upwards, in opposing the blade of an adversary, the strength of the defence decreases in proportion as the cut is received towards the point; and *vice versâ*, it increases from the point downwards.

The same grasp of the sword is to be retained throughout the exercise, to ensure the true edge leading, the middle knuckles are to be in the direction of the edge in all cuts and guards, the grip of the handle being held by the thumb and fingers around it.

Prepare for Sword Exercise.—Carry the right foot out to the right twenty inches, the left hand slightly closed a little below the pit of the stomach, being on the same line with the elbow, which will be nearly its height when holding the reins.

In the sword exercise dismounted, when acting on the right side (which should be drawn in), the weight of the body should be chiefly on the left leg, the knees bent so as

to make the "single" or "double attack" with the right foot, and the reverse when acting on the left side.

Draw Swords.—As before directed: except that the left hand does not quit the body to grasp the scabbard, and that the scabbard, after the sword is drawn, is left hanging by the slings.

Slope Swords.—As before directed.

Right prove distance.—Bring the sword to the "Recover;" by a second motion extend the arm to the right, and lower the sword in a horizontal direction from the shoulder with the edge to the rear, and the shoulders square to the front. "Slope Swords,"

Front prove distance.—Raise the sword as before; by a second motion extend the arm to the front, and lower the sword in a horizontal direction, edge to the right. "Slope Swords."

Engage.—Carry the sword to the right front, the edge inclining to the right, the point being advanced, and the arm bent, with the back of the hand up, and wrist down; the sword is then to be carried round in the same position to the right rear and passed smartly to left rear by the front, the point down, the "Fort" covering the centre of the body, elbow raised, hand a little lower than the elbow, looking over the arm and sword; continue this guard to the left front, and resume "Right Front Guard."

Assault.—Raise the hand and sword smartly to the right, the arm bent, the edge slightly turned up, the back of the sword resting on the right shoulder, the body and head turned to the right.

One.—Cut horizontally from rear to front at Cavalry, and prepare for cut "Two," the sword resting on the left shoulder, edge to the left, with elbow raised.

Two.—Cut horizontally from front to rear at Cavalry, and prepare for cut "Three," the arm extended to the rear on a line with the shoulder, the back of the hand turned down, sword horizontal, with point direct to the rear.

Three.—Cut low from rear to front at Infantry, and prepare for cut "Four," the back of the sword resting on the left shoulder, point to the rear, shoulders square to the front, and body well bent over.

Four.—Cut low from front to rear at Infantry, and prepare for cut "One," on the left at Cavalry by turning the head and body to the left, sword resting on the right shoulder, hand to the right front, arm bent.

One.—Cut horizontally from front to rear at Cavalry, and prepare for cut "Two," the sword resting on the left

shoulder, edge to the rear, hand to the left, elbow raised as high as the shoulder, arm bent.

Two.—Cut horizontally from rear to front at Cavalry, and prepare for cut "Three," at Infantry, arm bent, and over the right shoulder, sword point downwards, and bend the body over to the left.

Three.—Cut low from front to rear, and prepare for cut "Four," the arm extended to left rear, back of the hand up, edge of the sword down, point downwards to the left rear.

Four.—Cut low from rear to front at Infantry, and "Slope Swords."

(*Note.*—If the recruit fails to carry the edge well in making the "Assault," to attain so essential a requisite for a swordsman, he should be practised in combining cuts "One" and "Two" at Cavalry, repeating them several times; also the cuts "Three" and "Four" at Infantry).

Right Defend.—The hand and elbow well raised to cover the head, the edge of the sword up, the point lowered to the right front, the "Fort" covering head and face.

Second.—Carry the hand to the right rear, the sword nearly perpendicular, point up, the "Fort" covering head and neck.

Third.—Lower the point to the right front, with the edge to the front, and back of the hand to the left, the arm slightly bent, the hand as low as the hip to defend the leg or horse's shoulder.

Fourth.—Turn the edge of the sword to the rear, arm slightly bent, as high as in "Third Guard."

Left Defend.—Carry the sword by the front smartly to left rear, the "Fort" covering head and neck, point downwards, looking under the arm.

Second.—Carry the sword to the left front, the "Fort" covering face and neck, looking under the arm, body square to the front.

Third.—Lower the hand to the left rear the height of the hip, point of the sword downwards, and edge inclining to the rear, back of the hand kept up, arm slightly bent to defend the leg.

Fourth.—Turn the edge of the sword and arm to the front, hand as high as the hip, point of the sword downwards to the left front, arm slightly bent to defend the leg or horse's shoulder.

Slope Swords.—As before.

Words of Command.

"Engage"		"Right Defend"
"Assault"		"Second"
"One"	Right.	"Third"
"Two"		"Fourth"
"Three"		
"Four"		
"One"	Left.	"Left Defend"
"Two"		"Second"
"Three"		"Third"
"Four"		"Fourth"
"Slope Swords."		"Slope Swords."

Guards and Points.

Right Defend.—Form first guard on the right.

Point.—Deliver point to the right front at Cavalry, with the back of the hand up to the full extent of the arm, and return to first guard.

Second.—Form second guard.

Point.—Deliver point at Cavalry, to the right rear, with the back of the hand up, and return to second guard.

Third.—Form third guard.

Point.—Deliver point at Infantry, to the right front, with the back of the hand up, and return to third guard.

Fourth.—Form fourth guard.

Point.—Deliver point at Infantry, to the right rear, with the back of the hand up, and return to fourth guard.

Left Defend.—Form first guard on the left.

Point.—Deliver point to left rear at Cavalry, and return to first guard.

Second.—Form second guard.

Point.—Deliver point to left front at Cavalry, and return to second guard.

Third.—Form third guard.

Point.—Deliver point to left rear at Infantry, and return to third guard.

Fourth.—Form fourth guard.

Point.—Deliver point to left front at Infantry, and return to fourth guard.

Slope Swords.

Words of Command.

"Guards" and "Points"		
"Right"	"Defend"	"Point"
	"Second"	"Point"
	"Third"	"Point"

	"Fourth"	"Point"
"Left"	"Defend"	"Point"
	"Second"	"Point"
	"Third"	"Point"
	"Fourth"	"Point"

"Slope Swords."

Sword Exercise.

Right Engage—Carry the sword to the right, hilt over the foot, edge inclining to the rear, the point being advanced and the arm bent, with knuckles upwards, and wrist kept down.

Assault.—Prepare for cut "One" on the right at Cavalry.
One.—Cut "One;" and form first guard.
Point.—Deliver point and prepare for cut "Two."
Two.—Cut "Two," and form second guard.
Point.—Deliver point and prepare for cut "Three."
Three.—Cut "Three," and form third guard.
Point.—Deliver point and prepare for cut "Four."
Four.—Cut "Four," and form fourth guard.
Point.—Deliver point and resume fourth guard.

Left Engage.—Carry the sword smartly over to the left, hand and body turned in the same direction, the "Fort" a little below the left breast, point in a line with the hip, elbow as high as the shoulder, the hand a little below the elbow.

Assault.—Prepare for cut "One" on the left at Cavalry.
One.—Cut "One," and form first guard.
Point.—Deliver point and prepare for cut "Two."
Two.—Cut "Two," and form second guard.
Point.—Deliver point and prepare for cut "Three."
Three.—Cut "Three," and form third guard.
Point.—Deliver point and prepare for cut "Four."
Four.—Cut "Four," and form fourth guard.
Point.—Deliver point and resume fourth guard.
Slope Swords.—As before.

Words of Command.

"Sword Exercise"

"Right Engage"	"Left Engage"
"Assault"	"Assault"
"One—Point"	"One—Point"
"Two—Point"	"Two—Point"
"Three—Point"	"Three—Point"
"Four—Point"	"Four—Point"

"Slope Swords"—As before.

Pursuing Practice.

Assault.—Prepare for cut "One" on the right front.

One.—Make cuts "One" and "Two" in succession at Cavalry, and prepare for point to right front, the hand in front of the shoulder, elbow well raised, back of the hand up.

Point.—Deliver point to full extent of the arm to right front, after a momentary pause turn the back of the hand down, head and body turned to the left front, arm a little bent, point of the sword inclined to the right rear and as high as the shoulder for cut "One" at Cavalry on the left.

One.—Make cuts "One" and "Two" in succession at Cavalry, and prepare for point to left front as for right front.

Point.—Deliver point to full extent of the arm to left front, withdraw the sword, in a horizontal direction, smartly across the front, edge leading, keeping the arm fully extended on a line with the shoulder, and prepare for cut "Three" on the right at Infantry.

Three.—Make cuts "Three" and "Four" on the right in succession at Infantry, and prepare to point to the right front, elbow well raised, and hand a little below the shoulder.

Point.—Deliver the point to the full extent of the arm, and prepare for cut "Three" on the left.

Three.—Make cuts "Three" and "Four" in succession at Infantry, and prepare to point to the left front as on the right front.

Point.—Deliver point to full extent of the arm, and remain steady.

Slope Swords.—As before.

Words of Command

"Pursuing Practice"
"Assault"
"One"—"Point" - - - Right.
"One"—"Point" - - - Left.
"Three"—"Point" - - - Right.
"Three"—"Point" - - - Left

The men being complete in the Sword Exercise by word of command, will now go regularly through the exercise in the same manner as it will be shown at reviews, inspections, &c., taking the time of each motion (according as Right or Left is attached to the words of command).

Words of Command.

"Right Prove Distance."
"Slope Swords."
"Front Prove Distance."
"Slope Swords."
"Sword Exercise."
"Pursuing Practice."

Note.—If, while in the extended position for Sword Exercise, the command "Stand at Ease" is given, bring the right foot in behind the left heel, and, without removing the sword from the Slope, come to the position directed for "Stand at Ease" from "Slope Swords" at page 93. On the command "Attention" return to the position of "Prepare for Sword Exercise," with the right foot carried to the right. The ordinary position with the heels together, as at close files, is resumed either by the command "Front Form Ranks" or "Return Swords."

Front Form Ranks.—(From the position of "Prepare for Sword Exercise.") Bring the right heel smartly in to the left, at the same time dropping the left hand, and bringing the scabbard to an upright position at the left side, as at "Attention."

Return Swords.—(From the position of "Prepare for Sword Exercise.") As directed at page 94 for the position at close files, except that during the first two motions the left hand is kept across the body and does not grasp the scabbard; at the third motion bring the right foot to the left, at the same time dropping the left hand to the side, and bringing the sword to the position of "Attention."

SECTION 19.—ATTACK AND DEFENCE.

The following practices, with three different modes of Attack and Defence, in four directions, are laid down for independent practice.

	Attacking Files. Right Front.	*Defending Files. Right Front.*
First Practice.	Right Engage.	
March.—Deliver point and form fourth guard; come to engaging guard, moving on a horse's length, coming to the right about, and prepare to attack on the left rear.		Defend by second guard and deliver point; come to the engaging guard, and change smartly to left rear; prepare to defend.

Attacking Files.	*Defending Files.*
Right Front.	*Right Front.*
Second Practice.—Cut one, and second guard, &c., &c.	First guard, cut two, &c.
Third Practice. — Cut two, first guard, &c.	Second guard, cut one, &c.
Left Rear.	*Left Rear.*
First Practice.—Deliver point and form fourth guard, moving two horses' length to the front, and right about.	Form first guard, and deliver point.
Second Practice.—Cut one, first guard.	First guard, cut one.
Third Practice.—Cut two, second guard.	Second guard, cut two.

Change for left front attack, each file taking a side step to his own right.

Left Front.	*Left Front.*
Left Engage.	
First Practice.—Deliver point, first guard; come to left engage, moving on a horse's length, coming to the left about, and prepare to attack on right rear.	First guard, and deliver point; change smartly to right rear, and prepare to defend.
Second Practice. — Cut one, first guard, &c., &c.	First guard, cut one, &c.
Third Practice.—Cut two, second guard, &c.	Second guard, cut two, &c.
Attacking Files.	*Defending Files.*
Right Rear.	*Right Rear.*
First Practice. — Deliver point, fourth guard, moving on two horses' length to the front, and left about.	Second guard, deliver point.
Second Practice.—Cut one, second guard.	First guard, cut two.
Third Practice. — Cut two, first guard.	Second guard, cut one.

Note.— The same grasp of the sword to be retained throughout the exercise, to ensure the true edge leading.

All the points are delivered from a defensive position without the fingers relaxing their grasp.

Immediately the recruit has acquired a knowledge of the exercise, the squad should be broken into files, for the purpose of independent play in the practices given with sticks and masks.

The Mounted Practice is to be in the same formation as when performing the Practice (already directed) of Attack and Defence; the squad being extended, and in two ranks, they should then go through them at a canter; and afterwards both ranks, as in the lesson of the "Double Ride," performing the movements as they pass each other. The opposing files should also circle "Right" within measure, and at a walk, before they are allowed to play loose; strict attention being paid that all movements are made from the hips upwards, so as to keep the legs and bridle-arm in their proper position. The loose play, or Independent Practice, having been first tried at a walk, may be then carried on at a canter; and the files should practise on their left, as well as their right.

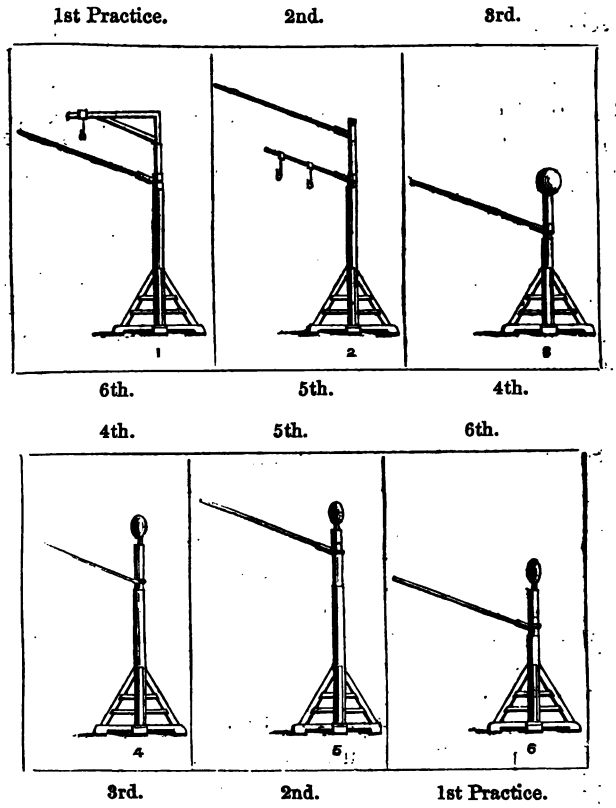
The cuts and thrusts must not be given too strongly, as in friendly practice any injury to the parties ought to be avoided.

Each cut or thrust to be acknowledged by the party receiving it, by sloping his sword, the opponent at the same time recovering to an engaging guard.

All cuts or thrusts being made from a defensive position, great attention should be paid in immediately returning to such, as soon as the cut or thrust is delivered.

The practice must never be without masks; and as the stick is the substitute for the sword, the cut can only be considered fair and effective when given with that part which corresponds with the edge: nor should any movement of attack or defence be attempted with the stick which could not be performed in a combat with swords.

It would be useless to endeavour to state which are the best movements, as they must depend entirely upon the judgment and abilities of the parties engaged; but as the loose play should not be allowed until a sufficient competency is attained by the parties, and they have been thoroughly instructed in the movements of Attack and Defence, they can never find themselves at a loss, if the science is followed up by sufficient practice and attention to the instructions they have received.



SECTION 20.—POST PRACTICE.

The squad should now be instructed to thrust and cut at the rings and heads attached to the posts, which are supplied to the cavalry riding houses for the practice with arms. This practice will give a confidence and precision in the application of the edge and point, as well as the requisite celerity and judgment of time and measure, as each post having an arm attached to it to represent a sword, lance, or bayonet, the swordsman is consequently forced to turn it out of the line by some mode of defence, before he can make his own offensive movement, both of which must be executed with great quickness; he should therefore be practised, first at a walk, and so on progressively to a canter, &c. It is also requisite that he should be practised to commence with the attack by having the arms of the posts turned outwards, and delivering the points and the cuts one, two, and three; to do which, in quick succession, the posts are all to be placed on one side of

the school. When the school is otherwise occupied this practice may be carried on in the barrack square, or exercising ground, occasionally varying the order of the posts, so that a cut or point may be alternately given. By placing the posts according to their numbers four, one, five, two, six, three, or moving four, five, and six to the right, the files passing between the two lines of posts may give the cuts on the right and points to the left; it being clearly understood that the movement of attack against each is invariably the same as directed in the Post Practice. The latter practice may also be carried out by placing the posts similarly in two lines down the centre of the school.

Right Practice.

First post, Second guard, point.
Second ditto, Strike the arm forward, point.
Third ditto, Fourth guard, low point.
Fourth ditto, Second guard, cut one.
Fifth ditto, Strike the arm forward, cut two.
Sixth ditto, Fourth guard, cut three.

The following Left Practice is added, having the posts on the left, the files going about, and consequently commencing at the sixth post, which, with the rest, must have the arm turned.

Left Practice.

Sixth post, Third guard, cut four.
Fifth ditto, Strike the arm forward, cut one.
Fourth ditto, First guard, cut two.
Third ditto, Third guard, low point.
Second ditto, Strike the arm forward, point.
First ditto, First guard, point.

Note.—In the above practices it will be observed that the posts No. 2 and No. 5 are those at which the defence is made to the front, whether they are to the right or left, and with the remaining four, viz., Nos. 1, 3, 4, 6, it is always made to the rear.

SECTION 21.—GENERAL OBSERVATIONS AND DIRECTIONS.

The exercise of the sword consists of four cuts or directions of the edge; the same number of guards or defensive positions; and the point (or thrust) given with the nails downwards; therefore, whatever may be the attack or defence, it can only be formed by having recourse to some of the above movements or a combination of them, as they are all applicable either to cavalry or infantry, according to the situation of the parties engaged; and in all

attacks, whether cuts or thrusts, the motion ought to increase in speed, the impetus being given at the last.

The greatest attention should at all times be paid to maintain the proper position and balance of the body, from which, by too great an exertion in delivering a cut or thrust, the horseman may be suddenly thrown, and thereby lose the advantage of his science in the use of his sword, by the natural efforts which he must make to regain his seat; nor should he fail to have every confidence and dependence upon his guard, without trusting to his avoiding the attack of an opponent by turning or drawing back the body to escape from it.

In delivering a forward thrust, very little force is necessary when the horse is in quick motion, as the extension of the arm, with a good direction of the point, will be fully sufficient; nor should a cut, under such circumstances, be given too strong, as in both cases the impetus of the horse will give the effective force; or in the latter, the drawing of the edge can very frequently be applied with advantage, particularly where the point, by being given too soon, may not have taken effect, when by a quick turn of the wrist the edge is drawn along the face of your opponent, or any part which more immediately comes in contact with it. The forcing also of the edge can be resorted to when very near and closely pressed upon by an adversary, by suddenly extending the arm, and directing the edge across the face, or where an opening is given; in this case, however, the hand should not be carried more than absolutely requisite either to the right or left, or make too wide a movement, so as to offer an equal chance to your opponent.

When sufficient space is allowed for choosing the point of attack, you should endeavour to take advantage of it; if not, at all events to avoid its being made on your left rear, when a change of position can alone bring you upon an equality with your opponent: it may be done either by making a sudden halt, so as to allow him to pass, and then pressing upon his left rear; or by turning quickly to the left about, and thereby having your right also opposed to his. Should you be prevented doing this, and he still keeps on your left, you must bear up, as close as possible to him, otherwise your opposition will be ineffecual: for in his situation, by keeping at the proper distance from you, his cut will reach when yours will not, and consequently you will be reduced to the defence alone.

In meeting your opponent on the left front, turn sharply to the left on your own ground, which brings you immediately with your sword-arm free, and at liberty to act

upon his left; and in meeting him upon the right front, press your horse quickly on, and by a sharp turn to the right, gain his left rear; or if pursued, endeavour to keep your adversary on the right rear; when the distance will be always in your favour, and you may, by the rear cut and point, keep checking his advance with impunity. When attacked by more than one, you will naturally endeavour to keep them both either to the right or left; but where they have been enabled to place themselves on both sides, press close upon the left opponent, and endeavour to keep the right one at a distance.

Although a regular mode is laid down for drawing the sword, yet occasional practice should be given, both on foot and on horseback, to come to the "Guard" immediately, and at any required point, without going through the Parade Motions, &c., which will prepare the swordsman for any sudden attack of an enemy.

The attack or defence against the lance must depend greatly upon the rider; for admitting that the lancer is equally well-mounted, and skilful in the management of his horse, he will endeavour to keep at such distance as to be out of your reach, whilst he can easily make good his thrust, from the length of his lance; and he will very frequently succeed in directing his point at your horse, which, becoming unruly, will leave you exposed to the attack of your opponent. You must, therefore, invariably endeavour to gain his right rear, where he is less able to attack or defend; whereas if (as against the sabre) the attack is made upon his left rear, he has the advantage of resting his lance upon his bridle arm, and can lengthen or shorten his thrust with facility and quickness, If engaged on his left, the object must be to keep just out of distance of the lance; watching the opportunity to close either by having previously formed a defence, or by bearing the lance out of the line. When meeting on his, or your own, right front, you may have recourse to either of the "Three Practices" (as against the sword), closing instantly after any of them with confidence and resolution; he will not then attempt to aim at the horse, as he becomes exposed to any cut or thrust, for it is only when engaged directly right or left in circling that he gives his short stabs at the horse, without exposing himself, or losing the power of regaining his lance. Your horse should have been well accustomed to the waving of the lance, without which no skill of yours, either in the science of the sword or that of riding, can be of much service to you.

When opposed to infantry, endeavour to meet an oppo-

nent on your right; as every guard parries the point of a sword, so will each defend against the point of a bayonet, taking care that the "Fort" of your own weapon meets the "Feeble" of your opponent's; consequently it is the bayonet which must be struck; and supposing the attack to be directed as usual, with the opponent's left shoulder advanced, and on your right front, the most effectual defence will be as in the practice against the posts Nos. 3 and 6, which are similar to the same movements against the sword in the Three Practices of Attack and Defence.

In advancing against infantry, the third guard on the right or fourth guard on the left leads well to the attack, and is ready for defence, or to take advantage of any opening; and should your opponent appear irresolute, or draw back his weapon, then, while passing, the cut three, or point, may be given to advantage; the cuts three and four on the right or left form a defence, as well as an attack, upon infantry; and the smarter they are given, the more effectually they will protect you, and cripple your opponent's position. The point should be used chiefly in pursuit, and will be given with most advantage on your right, as from thence you can reach further, and are better prepared for defence.

In the use of the sword at speed, there are few things of more importance than that the horseman should aid the impetus of the cut, and secure his own seat by supporting the sway of the body with the opposite leg to that side on which he intends to cut or point; for instance, if he desires to cut three or four on the near side of the horse, he should support the body by a strong pressure of the inside of the right thigh and leg against the saddle; *vice versâ*, in cuts made to the right, he should support the body with the left leg; the lower down the grip can be taken the better, taking care not to touch the horse with the spur at the time of making them. This rule is of greater consequence than it appears to be at first sight; for unless it is understood and practised, a person may be a very good swordsman, and yet not capable of using his weapon either with effect against an opponent or with safety to himself. It is particularly applicable and necessary in pursuit over rough and varied ground; and the same observation applies to the use of the lance.

The instructors should endeavour, as much as possible, in their progressive instructions to the recruit, to impress upon his mind such occasional observations as become most applicable. Opportunities of thus explaining may often be taken during pauses of rest, as no squad should

be kept too long either in the positions or movements; and where any recruits are more deficient than the rest, the whole should be made to cease for the moment, and only those who have gone wrong be required to go on and correct their error.

SECTION 22.—OFFICERS' SALUTE.

The "Carry Swords" when on foot is to be the same as when performing the Sword Exercise.

On the march (except when on the passing line in marching past), or when manœuvring, the sword is to be at the slope, both on foot and mounted.

When the sword is at the "Carry," mounted (as in parade movements and on complimentary occasions), the position is with the hilt resting on the right thigh, the blade perpendicular, the wrist rounded so as to incline the edge slightly to the left, the grasp of the lower fingers slightly relaxed.

In "Slow time" the salute on the march is to commence when at ten paces from the reviewing officer, taking the time from the officer on the right. The sword is then raised, by extending the arm to the right, and by a circular motion brought to the Recover; and continuing the motion to the right shoulder, from whence the sword is lowered, as before directed. The time for completing the salute on foot is four paces, commencing with the left foot, and may be divided (for drill practice) as follows:—First pace, the sword raised to the right; second pace, to the Recover; third pace, to the right shoulder; fourth pace, the sword lowered to the right. The same time is given for the salute when mounted, but the sword should then be kept in a line with the knee. On the march, the above four motions are slowly combined into one graceful movement.

In "Quick time" the officers salute as follows; at ten paces from the reviewing officer, as the left foot comes to the ground, the sword will be brought smartly to the recover, the next time that foot comes to the ground, it will be lowered to the saluting position.

The head should be slightly turned towards the reviewing officer whilst passing him, and having done so six paces, "Recover Swords," at one pace, and "Carry" on the following pace.

SECTION 23.—FORMATION FOR SWORD EXERCISE DISMOUNTED.

The battery or squad is told off by fours.

From the Right of Fours to the Front File.

Quick March.—The whole move forward in succession, 1, 2, 3, 4, first the front rank and then the rear rank, keeping their interval and dressing by the right. The rights of fours of the front rank preserve their distance from the line of officers; the remainder mark time till each in succession gets the distance of four paces from the man preceding him, particular attention being paid to true covering; rights of fours of the rear rank follow the lefts of fours of the front rank, and supernumeraries follow the lefts of fours of the rear rank.

Halt.
Prepare for Sword Exercise.
Eyes Right.
Draw Swords.
Slope Swords.
Right Prove Distance.
Slope Swords.
Front Prove Distance.
Slope Swords.
Sword Exercise.
Pursuing Practice.
Carry Swords.
Eyes Right.

Return Swords.—The whole come to the position of "Attention," as at close files, with the heels together.

Front form Ranks.—If still in the mounted position for Sword Exercise (as will be the case when swords have not been returned), the whole come to the ordinary position, as at close files, with the heels together. If swords have been returned, this position will have been already resumed at the command "Return Swords."

Quick March.—The whole re-form at close files on the rights of fours of the front rank, Nos. 2, 3, and 4 of both ranks inclining to their left.

Note.—Proving distance to the front is only necessary when on foot.

SECTION 24.—MANNER OF DISMISSING A BATTERY OFF PARADE.

With Swords.—After returning swords, *Right Turn–Dismiss.* The whole turn to the right; the front rank break off to the left, the rear rank to the right.

The men must always quit the parade ground without noise. In turning in a guard or picquet, the same mode is to be observed.

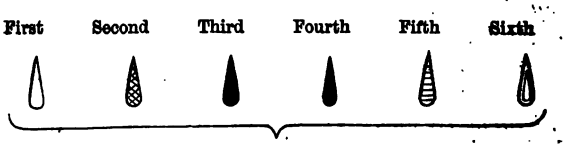
Note.—Formation for Sword Exercise mounted, *see* Inspection and Review, pages 279 and 347.

EQUITATION.

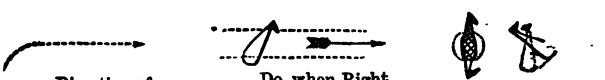
EXPLANATORY REFERENCES TO THE PLATES.

Instructor

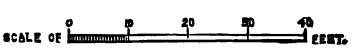
Dressing to the Right — Dressing to the Left



Successive Manœuvres in one Exercise.



Direction of Movement — Do. when Right or Left Shoulder in — about and circling



Length of the Horse 8 feet.

N.B.—The figure expressing a Manœuvre is always shown covering the one which preceded it, when they are both in one place.

PART III.

EQUITATION.

Introductory Remarks.

Military Equitation consists in the skilful and ready application of the Aids by which the Rider guides and controls the Horse in all his paces, and in a settled balance of the body, which enables him to preserve a firm seat in every variety of movement.

The Aids in Horsemanship are—the motions and proper application of the bridle-hand and legs, to direct and determine the turnings and paces of the Horse.

Military Equitation may be divided into three parts:

First. The instruction of the Recruit upon a Trained Horse, from the earliest to the last lessons.

Second. The Training of the Horse.

Third. The practice of the Recruit and Remount Horse, in the elementary parts of Field Exercise, to prepare them for instruction in the Battery.

This Science is indispensably requisite for the Military Horseman, in order that, being able to govern his horse by the aid of his legs and bridle-hand, he may have the right hand at full liberty for the use of his weapons; and be capable on all occasions, whether acting singly or with the battery, of performing with ease his various duties.

With this view both men and horses should be constantly practised in the exercise of such Lessons as will enable them either to move in a compact body, or to act singly or independently.

The System of Equitation laid down in the following chapters is calculated to ensure these advantages. The Rider, by the constant attention which is called forth in the practice of these Lessons, will acquire intelligence and confidence; and the Horse, being accustomed to yield to the impulse he receives from the Rider, will be rendered supple, active, and obedient. The health and condition of Men and Horses, as well as a regard for public economy, demand that the greatest care be taken in their instruction and formation, and that their lessons be proportioned to their health, strength,

and ability, so as neither to produce overfatigue, nor to injure men or horses by too violent exertion.

The above objects must always be kept in view; and every instruction must be strictly conformable to the Regulations for the Field Exercise and Movements of Artillery, so that when Men and Horses are placed in the ranks, they may be fully competent to enter upon their duties in the Field.

SECTION 1.—OPEN MANÉGE.

The use of an open Manége is indispensable in quarters where there is no riding school. It is also highly desirable that all Artillery should be often exercised in Open Manége, to prepare their horses for working steadily in the field with various objects in sight, which do not occur to distract their attention in the school; also to prevent men and horses from depending on the confinement of the walls for correct movements, and to make the men trust only to the proper application of the Aids.

These Manéges may be formed in a barrack yard, by preparing certain portions of ground with fine gravel of sufficient depth.

The length of each Manége should be sixty yards, the breadth twenty.

Where a larger size is required, and the ground will allow, an increase of five yards in breadth is to be made for every ten in length; one Manége will thus contain two good circles or longes.

The corners of the Manéges may be marked by large stones or stakes of sufficient height; and the same attention must be paid to making the corners square, as in the riding school.

By increasing the number of these Manéges, and placing one or two Instructors in each, any number of men and horses may be worked under the superintendence of the Commanding Officer or Chief Instructor.

But if it is desired that the whole or any part of the Brigade should be exercised together, by the respective Officers of Batteries, the Rides may be arranged in one or two parallel lines of Manéges, fifteen yards distant from each other, and fifteen yards between the two lines; the ends or short sides of the Manéges forming the front line.

The whole or any part of the Riding Lesson may then be gone through; the general plan of the exercise being the

same for all the Batteries; but the Instructors should avoid following the same routine that may be proceeding in the next Manége, in order that the attention of the men may be exclusively directed to their own Officers. The Commanding Officer may, by riding between the lines of the Manéges, superintend the Lessons of all the Batteries.

Instead of exercising the Horses along a road, by which the men are apt to acquire lounging and slovenly habits, and the horses to lose their training, they, when practicable, are to be drilled in like manner in the Open Manége; they will thus retain all the advantages of their previous drills, and preserve the freshness of the horse's mouth, and lightness of his forehand, by the use of the Bridoon, or Snaffle-Bridle.

It is recommended that those Non-commissioned Officers and men who have been formed at the Riding Establishment, and of whom a favourable report has been made, should be frequently employed in conducting Riding Drills, in order that they may keep up their knowledge of the system, and furnish a useful supply of Rough Riders when vacancies occur.

SECTION 2.—PREPARATORY INSTRUCTION OF THE RECRUIT.

When the Recruits shall have been practised in the elementary exercises of Marching, Turning, &c., on foot, and shall have attained a knowledge of the usual military terms and commands, they will commence their lessons in riding.

They may be instructed in squads of 12 or 14, on Trained Horses with stripped Saddles and Bridoons.

Their lessons at first must be short, and at all times gentle. With patience and mild treatment on the part of the Instructor, and with a proper explanation of the use and object of the different Aids, they will make more progress than by harshness and severity.

The Recruits are to be taught to saddle and bridle their horses; and also the proper manner of leading them.

SADDLING.

"*Saddle*" to be placed in the middle of the horse's back; the front of it about the breadth of a hand behind the play of the shoulder.

"*Crupper*" should admit the breadth of the hand between it and the horse's back, care being taken that none of the hair remains between it and the dock.

"*Numnah*" to be fastened on saddle, or pad, with its straps tightly buckled round the flaps of pannels, care to be taken that the numnah does not rest on the horse's withers, but is well raised into the fork of the saddle over the withers,

by putting the arm, or a rolled horse rubber, under it, which latter is withdrawn after the horse is girthed up.

"*Girth*"—to admit a finger between it and the horse's belly. With a young horse it must be tightened gradually, and not with violence.

"*Surcingle*"—to lie flat over, and not tighter than, the girth.

"*Breast-plate*"—the upper edge of the rosette, or leather, three fingers above the sharp breast-bone. The breadth of the hand between it and the flat of the shoulder.

"*Breast-harness*" should hang horizontally from the slings, about 3 inches above the point of the shoulder, and should admit the breadth of the hand between it and the horse's breast.

BRIDLING.

"*Bridoon*" is to touch the corners of the mouth, but low enough not to wrinkle them.

"*Bit*" is to be placed in the horse's mouth, so that the mouth-piece be one inch above the lower tusk, and two inches above the corner tooth, in mares.

"*Head collar*" parallel to, and behind, the projecting cheekbone; noseband horizontal, the breadth of two fingers below the cheekbone, and four fingers between it and the horse's nose. Throat-lash to admit the breadth of three fingers between it and the horse's jaw.

"*Curb*" to be laid flat and smooth under the jaw, to admit one finger between it and the jaw-bone.

FITTING OF THE STIRRUP.

The lower edge of the bar is to be two fingers above the upper edge of the heel of the boot for Gunners, one inch higher for Drivers.

LEADING THE HORSE.

The reins of the bridoon being taken over the head, are to be held with the right hand, the forefinger between them, near the rings of the bridoon; the spare end of the reins are then to be placed over the thumb of the right hand.

When leading through a doorway, the man placing himself in front of his horse, and taking one rein in each hand, close to the rings of the bridoon, steps backwards; taking care that the horse's hips and appointments clear the posts of the door. When the horse is through, he places himself on the near side, as before.

In passing an officer the man will march at attention, and look towards him, keeping his horse's head as high as his own breast.

The squad having led their horses into the riding-school, and formed in line, at open files, each man standing on the near side of his horse, toes in a line with the horse's fore-feet, will receive the word.

"*Reins over.*"—The reins are brought over the horse's head, and placed upon his neck, the man taking hold of the bridoon rein near the ring of the bridoon.

"*Stand at Ease.*"—The right arm is passed through the bridoon rein, both hands brought together in front of the body, right foot drawn back six inches and left knee bent. When riding with swords, the left hand is placed on the hilt of the sword.

"*Attention.*"—The position of the man as at foot drill, but holding the left bridoon rein near the ring of the bridoon, with the right hand raised as high as the man's shoulder; toes in a line with the horse's fore-feet, left hand hanging down by the thigh. When with swords, the sword is brought perpendicular by the side, with the left hand extended downwards, fingers behind, and thumb in front of it; the shoe of the scabbard should be in front of the heel of the boot.

"*In front of your Horses.*"—A full step forward with the right foot turning to the right-about, on the ball of it, taking the bridoon reins in each hand near the rings of the bit, raising the horse's head to the height of the man's shoulder, six inches from his breast, and making the horse stand even. (In this position a man shows a horse to an Officer when halted. In leading horses for inspection the horses are to be turned to the right-about.)

"*Dress.*"—When fronting the horses, dress to the left, if the right would be the flank dressed to when mounted.

"*Stand to your Horses.*"—A full step forward, with the right foot to the horse's near side, and turn left-about on the ball of it. Standing to the off side is only done when off side is mentioned, the man steps in with his left foot, and turns right about, and in fronting again, he steps out with his left foot, turning left about.

MOUNTING WITH STIRRUPS.

"*Prepare to Mount.*" [In Four Motions.] "*One.*"—Turn to the right on the left heel, place the right foot opposite the stirrup, parallel to the side of the horse; heels six inches apart; take the bridoon rein equally divided in the left hand, and the bit reins in the right hand, placing the little finger of the left between them (the bridoon is to be

taken in the same manner as the bit reins when used singly), place the left hand below the right on the neck of the horse, about twelve inches from the saddle.

"*Two.*"—The right hand draws the reins through the left, and shortens them, so that the left has a light and equal feeling of both reins, on the horse's mouth; the right hand remaining over the left.

"*Three.*"—The right hand throws the end of the reins to the off side, takes a lock of the mane, brings it through the left hand, and twists it round the left thumb; the left hand closes firmly on the mane and reins, the right hand now quits the mane, and lays hold of the left stirrup leather, with the fingers to the rear.

"*Four.*"—The left foot is raised, and put into the stirrup, as far as the ball of it; the right hand is placed on the cantle, and the left knee against the saddle, on the surcingle; the left heel is to be drawn back, in order to avoid touching the horse's side with the toe.

"*Mount.*" [In Three Motions.] "*One.*"—By a spring of the right foot from the instep, rise in the stirrup; bring both heels together; knees firm against the saddle; heels drawn back a little, the body erect, and partly supported by the right hand.

"*Two.*"—The right hand moves from the cantle to the pommel, and supports the body while the right leg passes clear over the horse's quarters to the off side; the right knee closes on the saddle, and the body comes gently into it.

"*Three.*"—The left hand quits the mane, and the right the pommel, the bridle hand takes its proper position; the right hand drops by the thigh, without stiffness, the back of the hand outwards, fingers half closed.

The right foot takes the stirrup, without the help of hand or eye.

"*Prepare to Dismount.*" [In Three Motions.] "*One.*"—The right hand takes the rein above the left; the right foot quits the stirrup.

"*Two.*"—The right hand holding the rein, the left slides forward upon it, about twelve inches from the saddle, feeling the horse's mouth very lightly.

"*Three.*"—The right hand drops the end of the reins to the off side, takes a lock of the mane, brings it through the left hand, and twists it round the thumb, the fingers of the left hand closing firmly on the mane and reins; the right hand is then placed on the pommel; the body erect.

"*Dismount.*" [In Four Motions.] "*One.*"—Supporting the body with the right hand and left foot, the right leg is brought gently (without touching either the horse's hind

quarters or the saddle) to the near side; heels close; the right hand on the cantle, to preserve the balance of the body as in mounting.

"*Two.*"—The body is gently lowered, until the right toe touches the ground.

"*Three.*"—Resting on the right foot, the left stirrup is quitted, and the left foot is placed in a line with the horse's fore-feet; the hands remain as in the former motion.

"*Four.*"—Both hands quit their hold; the man turns to the left on the left heel, and brings the body square to the front. During the turn, the right hand lays hold of the bridoon rein near the ring of the bit, and raises the horse's head as high as the man's shoulder.

TO MOUNT ON THE OFF SIDE.

After rising in the stirrup, the sword to be thrown well behind the left leg; when mounted, the sword to be brought to the near side.

TO DISMOUNT OFF SIDE.

The sword to be passed behind the man's back to the off side.

MOUNTING AND DISMOUNTING WITHOUT STIRRUPS.

"*Without Stirrups—Prepare to Mount.*"—Turn to the right, step six inches to the right, and close the left heel; the reins in the full of the left hand, on the pommel, the right hand on the cantle.

"*Mount.*"—Bend both knees, spring from the insteps, by which the body is raised to the centre of the saddle, rather leaning over it; by a second spring of the arms raise the body till the arms are straight.

Carry the leg over the horse, and fall lightly into the saddle, the right hand being carried from the cantle to the pommel.

Both hands then assume their proper position.

"*Without Stirrups—Prepare to Dismount.*"—Both hands, holding the reins, are placed with the fingers and thumbs extended on the pommel.

"*Dismount.*"—Raise the body out of the saddle by both arms, bring the right leg clear over the croup to the near side, and alight on the ground, the weight thrown on the toes.

The right hand lays hold of the bridoon rein as before.

The Recruits being mounted, and having been taught to take up the stirrups and to fasten them in front of the saddle over the horse's neck, by putting the off stirrup through the near stirrup leather, will be placed in the position without stirrups.

POSITION MOUNTED.

The body balanced in the middle of the saddle; head erect and square to the front; shoulders well thrown back; chest advanced; small of the back slightly bent forward; upper part of the arms hanging down straight from the shoulder; elbows bent and lightly closed to the hips; little fingers on a level with the elbows; wrists rounded, throwing the knuckles to the front, and thumbs pointing inwards across the body; each hand holding a rein, between the third and fourth finger, the end thrown over the forefinger and the thumb closed on it, the hands about three inches from the body, and varying from four to six inches apart.

The thigh well stretched down from the hip; the flat of the thigh to the saddle; knees a little bent, legs hanging straight down from the knee and near the horse's sides; heels well stretched down, the toes raised from the insteps, and as near the horse's sides as the heels.

A plummet line from the front point of the shoulder should fall an inch behind the heel.

This is the position halted, or at a walk; at a trot the body must be inclined a little back, the whole figure pliant, and accompanying the movements of the horse.

The position with stirrups is the same as without, the heels well stretched down and lower than the toes. The foot kept in its place by the play of the ankle and instep, the stirrup being under the ball of the foot.

"*March.*"—In moving forward, the hands are to be eased by turning the little fingers towards the head of the horse; when in motion the hands resume their position.

"*Halt.*"—A steady feeling of both reins, by bringing the little fingers towards the breast, nails turned upwards; both legs closed for a moment, to keep the horse up to the hand; hands eased as soon as halted.

"*Sit at Ease.*"—Drop both hands with the backs up on front part of saddle, fingers extended; palms of hands on saddle; reins retained between forefinger and thumb of each hand.

If the command "*sit at ease*" is followed by the word "*sit easy,*" the men may move their limbs, but must not lose their dressing.

On the word "*eyes front*" being given to men "*sitting easy,*" they will at once assume the position of "*sit at ease.*"

"*Attention.*"—The position described in the two first paragraphs must be at once resumed.

"*Rein Back.*"—A light feeling of both reins; little fingers towards the breast, and pressure of both legs to raise the fore-hand, and keep the haunches under the horse; ease the reins after every step, and feel them again. This should *seldom* or never be practised on the circle.

To take the horse into the corners, the outward rein must be felt and the inward leg applied, still preserving the bend.

"*Right or Left Turn.*"—A double feeling of the inward rein, the outward retaining a steady feeling.

The horse kept up to the hand, by a pressure of both legs, the outward leg the strongest, to keep the haunches from being thrown out.

"*Right or Left About.*"—A double feeling of the inward rein, and stronger pressure of the inward leg, supported by the outward leg and rein, the horse turning on his centre.

N.B.—By a turn about, the dressing is changed.

In turning to the right or right-about, the little finger of the right hand is to work towards the right shoulder; in turning left or left-about, the left little finger towards the left shoulder, upwards in both cases, to raise the fore-hand.

In working to the right, the thumb of the inward (right) hand to be on a level with the little finger of the left; the inward rein one inch shorter, so as to let the rider see the horse's inward eye, and *vice versâ*.

The squad, halted by the wall, in file; "*Bend your* "*Horses,*" play lightly with the inward rein, supporting with the outward leg and rein. The bend should be from the poll of the neck. Bending and unbending should be gradual.

The motion of the inward hand in bending, or forming a horse's mouth, should be by turning the little finger towards the body, nails upwards, and resuming the position, alternately, by a movement of the wrist, not by easing and drawing back the hand by a motion of the elbow, which must be kept steady.

It must be well explained that lightness of hand consists in an almost imperceptible feeling and alternate easing of the bridle, according to the motion of the horse, by which the delicacy of the horse's mouth is preserved.

DRESSING.

"*Dress.*"—The Flank Man, and the man next to him, being placed with their horses square across the school, in line with the centre marker, with one yard between them, the remainder take up the Dressing in succession from the Flank to which the Dressing is ordered, each keeping the same interval.

Bodies to be quite square to the front; heads well up, and just turned enough to allow a glance of the eye towards the dressing point, so as to see only the surface of the face of the next file but one.

A correct position must be retained while dressing, whether halted, or moving; and no attempt must be made to catch the Dressing, by leaning forward, or back.

When moving across the school in Line, Dressing is to be correctly kept.

On arriving within a yard of the opposite side of the manége, all halt, except the right-hand man, and each in succession, without any word of command, turns to the hand to which he dressed in marching, and moves round by the boards, keeping four feet distance from his horse's head to the croup of the horse in front of him.

N.B.—The "Dressing" remains to the same hand till changed by

1. "*Turn about.*"
2. "*Circle and change.*"
3. "*Incline.*"
4. "*Whole or half passage.*" All these change the Dressing. The two first change the leading man.

The above Aids and Directions being explained to the Recruits as they make progress, they will commence with the most simple lessons; as

"*Eyes Right—March—Right Turn.*"—Turns to the right, to be repeated till some improvement is made.

While moving across the school, "*Halt.*"

"*Rein Back—Forward.*"—Press the calves of both legs, yield the hand for an instant, then feel the reins again—on arriving at the wall, turn to the Right as before.

"*Right Turn.*"—Then, when moving across the school, "*Halt.*"

"*Right about Turn.*"—Each man turns on his own centre. The dressing is now changed to the Left; and each man, on reaching the side of the manége, turns to the left, without word of command.

"*Left Turn.*"—Repeated till well done.

"*Halt—Rein Back—Forward.*"
"*Left Turn.*"
"*Left About Turn.*"

This last changes the Dressing to the Right.

The Squad should occasionally be halted by the side of the manége in File, and reined back a few steps.

When they have been worked at a walk till they preserve their position, and practise the turns, &c., well, they may commence a gentle trot.

"*Trot.*"—Ease the reins, and press the calves of both legs according to the horse's temper, then feel both reins to raise the fore-hand.

Recruits must be taught to preserve their position, and seat, by the balance of the body, and not by clinging with their knees.

They should practise the turns at a trot, the same as at a walk, to either hand; and should file down the centre, to

make them keep a straight line and cover well, depending more on their aids than the wall.

When they have learnt to preserve their seat and balance, and to apply the aids well at a moderate trot, the pace may be gradually increased. It is also advantageous to make them change horses occasionally.

When the Recruit has learnt to preserve his proper seat and balance, and has a knowledge of the aids of hands and legs, he is to ride with spurs.

In making use of them, he must be taught not to open his thighs, or yield the body forward; the leg only should move, and the spur be applied just behind the girth.

The spur should be used as little as possible; but when it is, the horse should feel it; because a continued touching lightly, with the spur, will either make the horse kick, or cause him to become insensible to it. A jogging motion of the leg, therefore, with the heel drawn up, must never be allowed.

Circling by files and by sections may here be practised, as it not only teaches the men to handle their horses, but accustoms the horses to leave the ranks.

On the command—

"*Heads of Sections, Circle Right.*"—The numbers "One" of each section will describe a circle, followed by "Two," "Three," and "Four." On arriving again at the side they will move on as before.

"*Numbers One, Circle Right.*"—The numbers "One" of each section will describe a (three horses' length) circle, the number "One" of the leading section dropping into the space left by the number "One" of the second section, and so on to the rear. Numbers "Two," "Three," and "Four," are then ordered to circle in succession till all are in their proper places again.

The change may be made by "*Heads of Sections,*" "*Right or Left Incline.*" The numbers "One" of each section making a half turn from the boards. Numbers "Two," "Three," and "Four," following and covering, on arriving at the opposite side change the bend and lead round to the other hand. If at a canter, the change may be made by "*Half Passage.*"

By the foregoing gradual instructions and moderate lessons, the Recruits will be fitted for the Single Ride.

SECTION 3.—SINGLE RIDE.

Plate I. fig. 1.

The Ride being formed in line with the centre marker, and at an interval of one yard from knee to knee, the bits and stirrups are pro-

perly fitted, and the men are instructed to number off from right to left and also to tell off by fours, they are then told off in divisions, and the divisions and fours are proved.

"*From the Right Number.*"—The right file tells off "One," the second "Two," and so on to the left, then according to the strength of the ride (say 14), from "One" to "Seven" will be "Division One," and from "Eight" to "Fourteen" "Division Two."

"*Flanks of Divisions, Prove.*"—Numbers 1, 7, 8, and 14 raise their right hands to the front in line with their shoulders, the palm of the hand to the left.

"*As you were.*"—The men drop their hands to the proper position. This word of command is given after every proving.

"*From the Right tell off by Fours.*"—The right file tells off "One," the second "Two," the third "Three," the fourth "Four," the fifth file will tell off "One," and so on by successive fours to the left.

"*Flanks of Fours, Prove.*"—The numbers "One" and "Four" extend their hands to the front as directed for divisions.

"*As you were.*"—As before directed.

"*Even Numbers, Prove.*"—Numbers "Two" and "Four" extend their hands, as before.

"*As you were.*"—As before.

If the ride is on the move, the same words of command are used, substituting the word "Front" for "Right," in telling off, the proving will be the same.

Pl. I. fig. 1. 2. "*Eyes Right—March.*"—The Ride moves forward, preserving their dressing; on arriving within a yard of the wall all halt, except right-hand man; and each in succession turns to the right, covering and keeping four feet distance from the man in front of him.

Pl. I. fig. 1. 3. "*Leading File Circle.*"—They circle round the Instructor, proportioning the circle to the number of the ride—he corrects their positions; and as soon as the seat is good and uniform, gives the word—

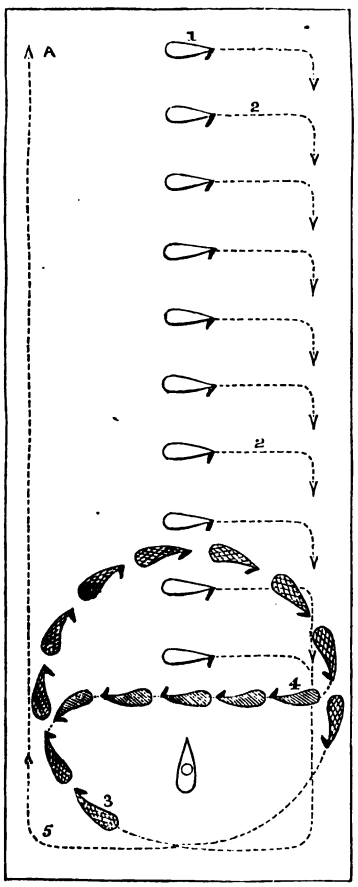
Pl. I. fig. 1. 4. "*Leading File, Change.*"—The leading file makes a square turn to the right at the first marker, and moves straight across the school, on arriving at the opposite side he changes the bend of the horse and turns to the left, and commences a circle to the other hand.

"*Leading File Change.*"—This is to bring them on the right rein again.

Pl. I. fig. 1. 5. "*Go Large.*"—They go round by the boards. Before commencing turns and circles at the

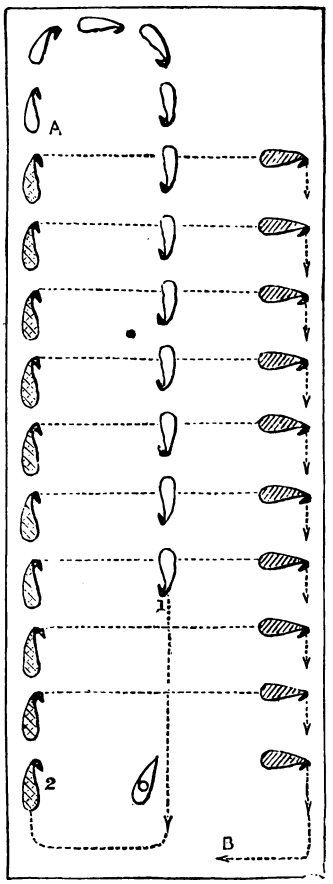
PLATE I.

Fig. 1.



1 Ride formed Eyes Right.
2 March.
3 Leading File Circle.
4 Leading file, change.
5 Go large. After repeating, change.

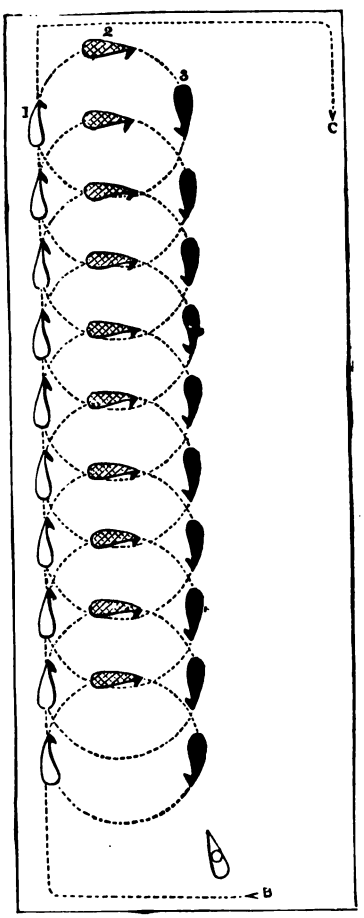
Fig. 2.



A Continued from Fig. 1.
1 Down the Centre.
2 Right turn.

PLATE II.

Fig. 1.

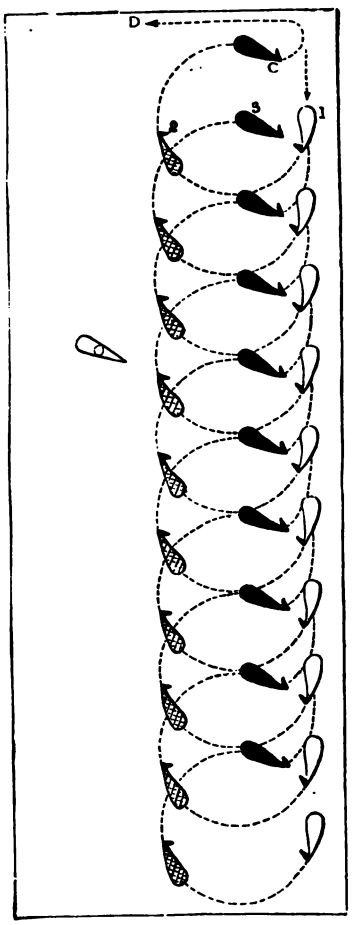


B Continued from Plate I. Fig. 2.

CIRCLE RIGHT.

1 In File by the Wall.
2 Dressing to the Rear File.
3 Covering in the centre.

Fig. 2.



C Continued from Plate I. Fig. 1.

CIRCLE AND CHANGE.

1 In File by the Wall.
2 Beginning to cover in centre.
3 Dressing and turning to left.

walk, the Ride should trot, trot out, trot short, and canter on the circle, going large once to each hand.

Pl. I. fig. 2. 1.

"*Down the Centre.*"—The leading file turns to the right, at the centre of the end of the school, followed by each file in succession, the horse being well supported with the outward leg, to keep the haunches from flying out; and the same to be attended to in turning to the right, in succession, at the lower end.

When in file by the wall, "*Number One.*"

Pl. I. fig, 2. 2.

"*Right Turn.*"—The turn to be made square, at the last sound of the word, and a steady pace kept.

"*Number Two, Right Turn.*"
"*Number One, Right Turn.*"
"*Number Two, Right Turn.*"
"*Number Two.*"

The turns are to be repeated till made correctly, and the dressing well kept across the school,

Pl. II. fig. 1.

"*Circle right.*" — Each file turns from the boards, by a double feeling of the inward rein, retaining a steady feeling of the outward, supporting well with the outward leg; in circling to the right, dressing and distance are taken from the right. Each turns from the boards with the leading file; in the centre of the school with the rear file; presses forward in the centre one horse's length, continues the circle, and arrives at the boards with the leading file.

"*Circle entire.*"—Should the circle be incorrectly made, the instructor can give the word "*Circle entire,*" when the division circling will continue circling till the word "*Go large*" is given. While this is being done, the other division must be halted, and moves forward at "*Go large.*"

In circling to the left, aids and dressing are by the same rule, *Left* being substituted for *Right.*

To try the correctness of the circling, the ride may be halted on the turn, in the centre, at which time they should cover.

"*Number One, Circle right.*"
"*Number Two.*"

Pl. II. fig. 2.

"*Circle and Change.*"—When eyes are right, having turned in the centre with the rear file, dressing is changed to the left, the circle to be nearly completed, then turn to the left, at the boards, with what is now the leading file.

"*Number One, Circle and Change.*"

Same movements repeated to the left,—"*Down the centre*"—"*Left Turn*"—"*Circle Left*"—"*Circle and Change,*" brings them to work to the right again.

"*Number One, Right Turn,*" and on arriving at the opposite side of the school.

"*Number One, Halt.*"—Every man dressing correctly.

"*Number Two, Right Turn,*" and when arrived at four feet from number one.

"*Number Two, Halt.*"

"*Rein back, March.* — The whole rein back across the school.

"*Halt.*"

"*Number One, March.*"

"*Number Two, March,*" and when in file by the left side of the manége.

Pl. III. fig. 1. 3. "*Number One, Right Incline.*" By a double feeling of the right rein, supporting with the left leg, each file makes a half turn from the boards, then moves, on an oblique line, to the other side of the manége. The leading file keeping the angle and direction, the rest conforming to him, and taking dressing and distance from the left, each file just seeing the right cheek and back of the right shoulder of the file on his left.

"*Number Two, Right Incline.*"

On arriving within a yard of the other side of the manége, each file squares his horse, making a half turn to the left, by feeling the left rein, supporting with the right leg and rein, changes the bend of the horse, and covers; dressing is now changed to the left.

"*Number One, Left Incline,*" reversing the instructions given above, and the dressing is again changed to the right.

"*Number Two, Left Incline.*"

If "*Forward*" is given in the centre of the school, the same is done there, the horses well supported with the inward leg, to prevent the haunches flying out.

The Ride should be occasionally halted on the incline, to see that each file is placed in the proper direction, and that the dressing is correct.

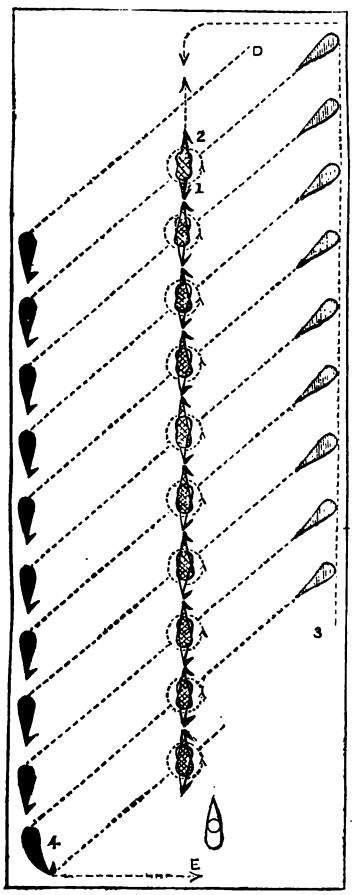
Pl. III. fig. 1. "*Down the Centre.*"—When the whole are in file in the centre.

"*About.*"—Always to the hand to which they are working.—At the word, each file halts steadily, turns about on the centre, beginning with the leading, and ending with the rear file; as soon as About, the dressing hand and bending of the horse are changed. Move off at the same pace covering as before.

When the leading file arrives near the end of the school, "*On the Forehand,*" or "*On the Haunches,*" "*About,*" the time being given by the leading and rear file as before described. The ride is again working to the right.

PLATE III.

Fig. 1.



D Continued from Plate II. Fig. 2.

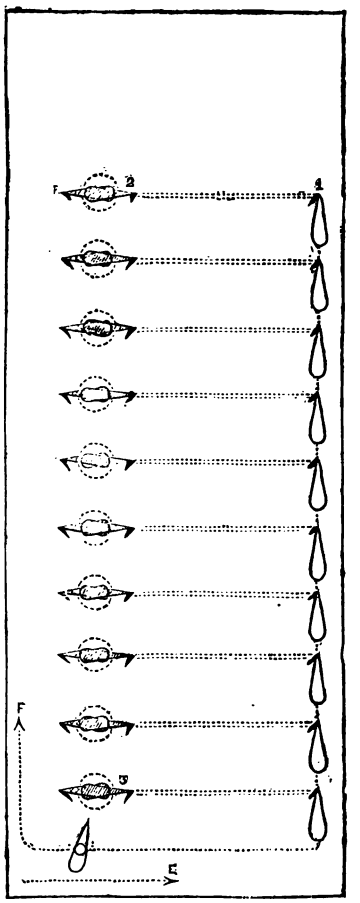
1 Down the Centre.

2 Left about, Eyes Right.

3 Right incline, Dressing to Left, Horses bent to Right.

4 Eyes Left, bent to Left.

Fig. 2.



E Continued from Fig. 1.

1 In File, Eyes Left.

2 Left about.

3 Eyes Right.

PLATE IV.

Fig. 1.

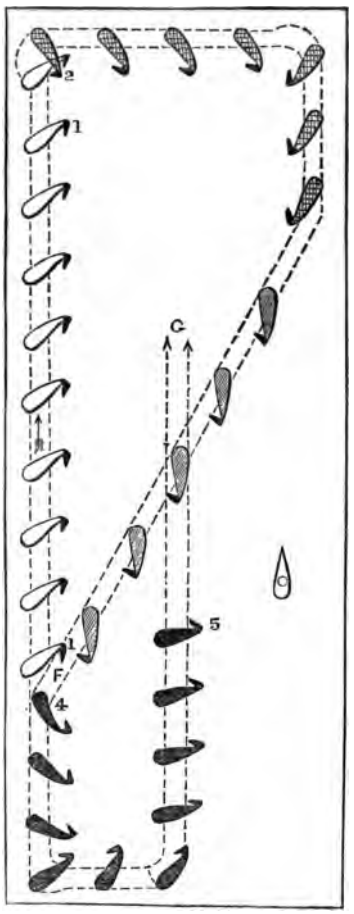
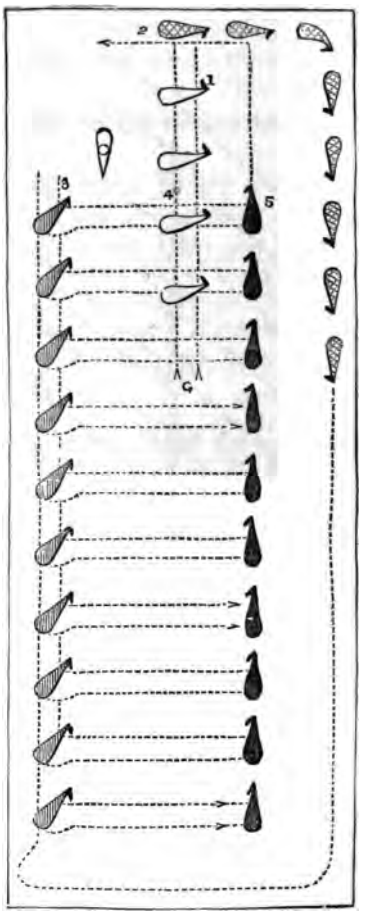


Fig. 2.



F Continued from Plate III. Fig. 2.

1 Right Shoulder in.

2 Staying forehand, circling croups round at the corners.

3 Right half passage.

4 Left Shoulder in.

5 Up the Centre left pass.

G Continued from Fig. 1.

1 Up Centre left pass.

2 Rank off.

3 Right Shoulder in.

4 Right pass.

5 Forward.

If the Ride is at a trot, or canter, before the word "*About,*" the leading file moves two steps at a walk, after they are About, before he recommences the trot or canter.

Or "*Right Turn,*" and when arrived in line, more than half across the school.

"*About.*"—Each file turns about on his centre, changes dressing, when About, to the other hand, moving off with the leading file at the former pace, without any pause.

"*Trot.*"—The foregoing to be repeated at a trot, to each hand, after each has been done at a walk, so as to produce ease to men and horses, by walking and trotting alternately. Great attention must be paid to regularity of pace.

BENDING LESSON.

The Ride being in file by the boards working to the right.

Pl. IV. fig. 1. 1. "*Right Shoulder in.*" The horses' head to be brought into the School, with the (inward) or right rein, the left leg and rein supporting; then to be led off with the (outward) or left rein, the (inward) or right leg presses the horse to cross his legs, the (outward) or left keeps him up to the hand.

The horses are to be well bent, shoulders leading, the inward crossing over the outward legs; the fore and hind feet moving on two lines, in the same direction as the sides of the manége; the hind feet one yard from the boards.

If the horse is too square, the outward leg should be applied to check the haunches, and the outward rein should lead off the shoulders.

"Shoulders in" should be done slowly, and with frequent halts, to correct the position of the horses.

Pl. IV. fig. 1. 2. At the corners the inward rein stays the forehand; the inward leg circles the croup round; the outward rein then leads off again.

The men must be made to keep their position, and not be suffered to draw the heels up, and tickle the horse with the spur.

"*Right pass, Shoulder out,*" a double feeling of the left rein and a stronger pressure of the left leg, the horse turning on his centre; when turned, lead the shoulders off with the right rein.

"*Right Shoulder in.*"—A double feeling of the right rein and a stronger pressure of the right leg, the horse turning on his centre; when turned lead the shoulders off with the left rein.

The change of dressing in the Bending Lesson is made as follows:

The Head of the Ride in "Right shoulder in," being half-way up the side of the manége, at the word

Pl. IV. fig. 1. 3.

"*Right half pass,*" the leading file presses his horse gently forward with both legs. When the horse enters the new line, with his fore feet, the calf of the left leg must be pressed, to bring the quarters gradually into their proper oblique direction, with respect to the fore feet, the fore and hind feet moving on two oblique, or diagonal, lines to the other side of the manége.

The right rein leads, and bends, the left leg presses, and obliges the horse to place the left foot before the right. The left rein assists, and balances the power of the right, the right leg keeps him up to the hand, and makes him advance, at the same time that he is "passing" to the right.

Each file in succession, when arrived at the point where the leading file began, applies the same aids, commences the "half-passage," and dresses to the right, just seeing the left cheek and back of the left shoulder of the man to the right.

The leading file on arriving near the boards closes the right leg, changes the position of the horse's head with the left rein, and moves forward by the boards; dressing changed to the left.

Each file follows in succession, when arrived near the boards. The leading file moves slow till all are in file, when the Instructor orders "*Forward.*"

If the word is given,

Pl. IV. fig. 1. 4.

"*Leading File, Left Shoulder in.*"—On arriving near the boards, the leading file stays the forehand with the left rein, and changes the position of the horse's head, circles the croup round with the left leg, and then leads off with the right rein; each doing the same in succession.

The head of the Ride at "Left shoulder in," being near the centre of the end of the manége.

Pl. IV. fig. 1. 5.

"*Down the Centre, Left pass.*" At the centre each file in succession closes the right leg, and leads the horse off with the left rein, "passing" on a straight line, down the centre.

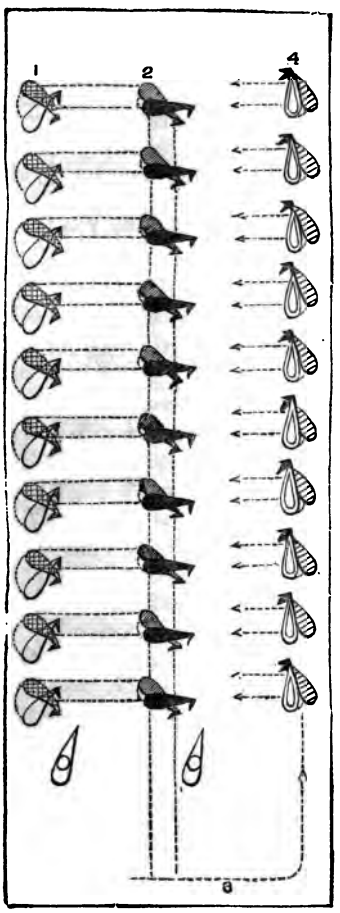
The left rein bends and leads, the right balances and assists the power of the left; the right leg makes the horse cross his legs, the outward over the inward, the left leg keeps him up to the hand.

Pl. IV. fig. 2. 2.

"*Rank off.*" The leading file closes the left leg and presses forward straight to the boards—turns to the right, changing the bend, and moves round to the right, slowly, till the whole are in file.

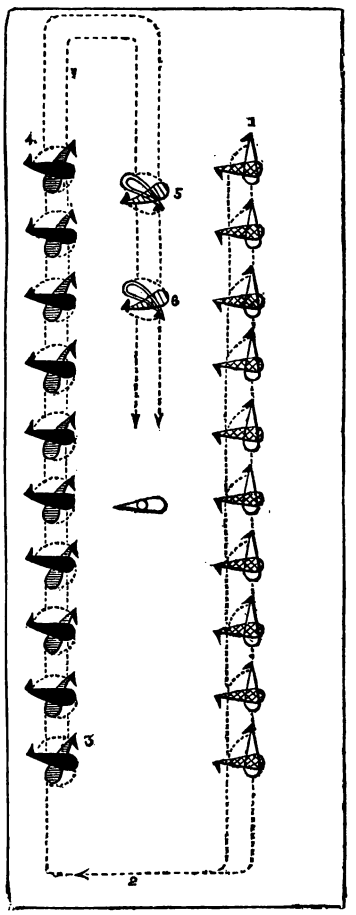
PLATE V.

Fig. 1.



1 Right turn, in Right Shoulder in.
2 Right pass, from Right Shoulder in.
3 Rank off.
4 Left pass, from Left Shoulder in.

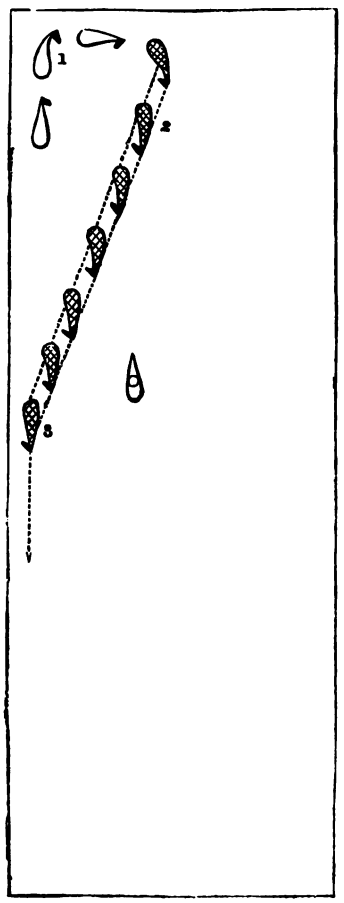
Fig. 2.



1 Left turn, in Left pass.
2 Rank off.
3 Right Shoulder in.
4 Right pass Shoulder out turning on Centre.
5 From Right pass, to Right Shoulder in.
6 From Right Shoulder in, in the centre of the School, to Right inwards pass.

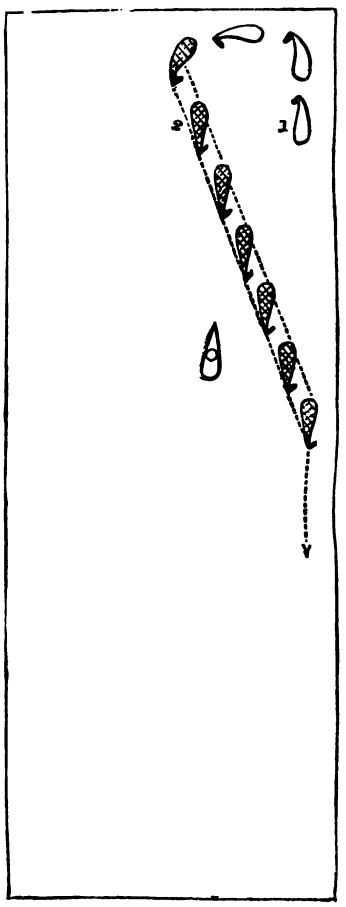
PLATE VI.

Fig. 1.



1 Canter to the Right.
2 Half Passage.
3 Change.

Fig. 2.



1 Canter to the Left.
2 Half Passage.
3 Change.

N.B.—In single Ride this should commence from the centre of the end of the School, and should arrive at the middle of the side.

Each succeeding file "passes up" to the same ground, keeping the dressing, shoulders and haunches arriving together, and then follows the file before him.

The Ride being at "Right shoulders in," by the side of the manége, at the word

Pl. IV. fig. 2. 3.

"*Right pass.*" The whole together close the left leg, and lead off with the right rein, "passing" across the school, covering to the front. On arriving at the boards, close the right leg, change the bend of the horse, and press forward by the boards; dressing changed to the left.

If "Left shoulder in" is ordered, the Aids are as already explained.

"*Halt*" (in the "Shoulder in"). Feel both reins, and close the outward leg.

"*Halt*" (in the "Passage"). Feel both reins, closing the inward leg.

Or the following lesson:—

"*Right Shoulder in.*"

"*Right pass, Shoulder out.*"

"*Right Shoulder in.*"

"*Number One, Right pass,*" and on arriving at opposite side of the school.

"*Number One, Left Shoulder in.*"

"*Number Two, Right pass.*"

"*Number Two, Left Shoulder in.*"

"*Left pass, Shoulder out.*"

"*Left Shoulder in.*"

"*Down the Centre, Left pass.*"

"*Number One, Left Turn,*" on arriving at the boards, moving forward at the same pace as the passage.

"*Number Two, Left Turn.*"

"*Forward,*" the whole press forward together at the usual pace.

TURNS IN THE BENDING LESSON.

Pl. IV. fig. 1. 1.

In "*Shoulder in.*" On the forehand; the inward rein staying the forehand, the inward leg circling the croup round; when turned, the shoulders are led on, by the outward rein.

Pl. V. fig. 2. 1.

In the "*Passage.*" On the haunches; the inward leg staying the hind quarters, and a double feeling of the inward rein, circling the forehand round; the outward leg prevents the haunches from flying out.

Pl. V. fig. 2. 4.

From "*Shoulder in,*" to "*Pass, Shoulder out.*" A double feeling of the outward rein, and double pressure of the outward leg, supported by the

inward leg and rein, turning on the centre; when turned, lead off with the inward rein.

Pl. V. fig. 2. 5. From "*Pass, Shoulder out,*" to "*Shoulder in.*" A double feeling of the inward rein, a double pressure of the inward leg, supported by the outward leg and rein, the horse turning on his centre; when turned, lead off with the outward rein.

These changes may be made either in the centre or by the wall.

The following bending lesson may also be practised by a first class Ride, at a trot:—

"*Right Shoulder in.*"

"*Right pass, Shoulder out.*"

"*Right Shoulder in,*" when the rear file of number one Ride has turned the corner.

"*Number One, Right pass,*" and on arrival at the boards at the opposite side.

"*Number One, Left Shoulder in.*"

"*Right and Left pass,*" number one passing to its left, and number two to its right, and on the Rides arriving at the boards at opposite sides.

"*Right and Left Shoulder in.*"

"*Number Two, Left pass.*"

"*Number Two, Right Shoulder in.*"

"*Forward,*" the Ride going large, round the school, and on the right rein.

THE CANTER.

When the Ride works well at the trot, and in the Bending Lesson, and the horses are well bent and collected, the "Canter" may be commenced.

The Instructor makes the files trot round him in circle, and when they are steady, orders the "Canter;" or turning them across the school, orders "Canter;" just before they arrive at the opposite boards, which makes it easy to strike off true.

"*Canter.*" A light and firm feeling of both reins, to raise the horse's forehand; a pressure of both legs to bring the haunches under him.

A double feeling of the inward rein, and a stronger pressure of the outward leg, to make the horse strike off true and united. The horses should lead off correctly, without throwing their haunches in; the rider, in applying the aids for cantering, is to remain steady in the middle of the saddle, without leaning forward. If a horse is false, the man should not check the Ride, but close up to half the distance ordered,

make half a halt at the next corner, feel the inward rein, and close the outward leg.

In going to the right, a horse should lead with the off foreleg, followed by the off hind: in going to the left, with the near fore, followed by the near hind.

In cantering to the right, a horse leading with the two near legs is "false."

In cantering to the left, if he leads with both off legs, he is "false."

Cantering with the near fore, followed by the off hind, or off fore, followed by the near hind, is "disunited."

When the horse has struck off correctly, hands and legs resume their proper position. The reins to be eased at every stroke, by the play of the wrist, avoiding a dead pull.

"*Down the Centre.*"—The Ride is ordered down the centre, to see that the horses are well supported in the turn with the outward legs, that they cover well, and the horses do not throw the haunches out.

"Turns" to right and left, should be made to each hand, till well done, as in the trot.

N.B.: The canter, though collected, should never be so slow as at all to affect the freedom and spring of the horse's action. Sometimes a ride keeps a good pace round the school, but in turning the pace is lost and becomes hurried by the rider's feeling the inward rein too strongly and not supporting by the outward rein and leg; or by yielding the hand too much, and not keeping the haunches under him. Many horses when turned feel too much constraint, and to relieve themselves lean on the rider's hand. If he yields the reins at that moment, instead of closing the hand firmly, turning the little finger towards the breast upwards, and pressing both legs, the horse comes on his shoulders.

When a horse defends himself against being collected by leaning on the hand, he should be corrected by the rider keeping him well up to it (or, if it can be done, by reining him back), but as soon as the horse yields to the hand the hand should yield to him.

The instructor must see that the same pace is kept across the school.

Those horses that continue "false," to be turned into the school, brought to the trot, and then the proper aids applied.

"*Circle, Right* (or *Left*)."—"Circle," "Right," or "Left," should follow the turns, as in the trot.

The horses should be well bent to the hand to which they are circling, and supported with the outward leg; but if a

horse throws his haunches in too much, he will then require more support with the inward leg.

This should not be practised till the horses are well in hand, and in the beginning a horse's length distance should be ordered to give room.

The "dressing" is changed in the "canter" by

Pl. VI. fig. 1. fig. 2. "*Half Passage.*"—The ride being in file and going round the school, the leading file turns from the boards at the centre of the end of the school, followed by each file in succession.

In turning from the boards, the outward leg prevents the haunches from flying out, the forehand being brought in by a double feeling of the inward rein, each taking off from the same ground with the leading file.

Each man dressing his horse's head on the outward knee of the man in front of him: forehands and haunches to arrive together at the side of the school, and then the horse to be changed, but not before; which is prevented by closing the outward leg, and not changing the position of the horse's head till arrived at the boards. This should be practised first at the walk, to see the horses properly placed.

At first the ride should trot after the "half passage" till sufficiently improved to change at the "canter;" or, by

"*Inclining.*"—Make a half turn from the boards, the horses bent the way they are inclining, till they arrive at the opposite side; there make half a halt, change the position of the horse's head and leading leg, and continue the "canter," the dressing changed. Or, by

"*Halt*" and "*About.*"—Either while in file down the centre, or in line, across the school.

Halting in the "canter" must not be practised till the hand and seat are good, so as not to strain the hocks by a sudden jerk; the ride is therefore at first to be brought to the "trot" from the "canter" previous to the halt.

When they are well advanced,

"*About*" may be ordered on the "canter;" in which case, first making a steady halt, they come about and resume the "canter;" dressing being changed.

The men being perfect in single ride without stirrups, and the horses well broke with bridoons, they now take their stirrups, and ride with bits.

RANKING PAST BY SECTIONS.

"*Carry Swords.*" "*By Sections down the Centre, Rank past.*"—Each section turns together from the end of the school or manége and marches down the centre, dressing by

the right with an interval of one horse's length from knee to knee, and four horses' lengths between each section, the officers (if any) saluting at the first marker and bringing their swords to the "recover" and "carry" at the farthest marker.

"*Trot past by Sections.*"

"*Carry Swords.*" "*By Sections down the Centre.*"

"*Trot.*"

The same may be done at a canter.

If the "sword exercise" is to be performed, it can be done by halting the leading section in line with the centre marker, the remaining sections moving up to one horse's length distance. The Ride can be re-formed by the commands,—

"*On your Right, Close your Files.*" "*Right pass.*" "*March,*" the No. one (1) of each section remaining steady, and the others closing by the "passage" to six inches from knee to knee.

"*Fours Left,*" the dressing is then to the right, and the Ride is dressed on the centre marker at the end of the school.

POSITION OF BRIDLE HAND, WITH THE BIT.

The upper part of the arm hanging straight down from the shoulder, the left elbow lightly touching the hip; the lower part of the arm square to the upper; little finger on a level with the elbow; wrist rounded outward; the back of the hand to the front, the thumb pointing across the body. The hand opposite the centre of the body, and three inches from it. The bridoon rein when working with the bit to be held in the full of the bridle hand, and apart from the bit reins. The top of the thumb firmly closed on the bit-reins, which are divided by the little finger. The right hand drops by the thigh without stiffness, the back of the hand outwards, fingers half closed.

The little finger of the bridle-hand has four lines of action:—

1. Towards the breast.
2. Towards the right shoulder.
3. Towards the left shoulder.
4. Towards the horse's head.

1. In "halting," the little finger is turned upwards, towards the breast, and resumes its position as soon as the horse is halted.

In "reining back," these motions are repeated alternately at every step.

2. In "turning to the right," and "right about" the little finger is turned and the hand a little raised towards the right shoulder.

In "right shoulder in," on turning from the boards, the little finger towards the right shoulder; when in Shoulder in, the little finger should partly work upwards towards the breast, partly towards the left shoulder, to keep the horse's shoulders leading.

In "Right pass," the little finger towards the right shoulder; if the forehand is too much advanced, the little finger towards the body to check it.

In "Half passage," the little finger not so much to the right shoulder.

3. In "Working to the left," the same movements towards the left shoulder, as laid down above towards the right.

4. In "Moving forward," the little finger towards the horse's head, to ease the reins for a moment.

RIDING WITH ARMS.

When the horses work well with the bit, and the men have acquired steadiness and lightness of hand,—

Having been previously perfected in sword exercise on foot,—the men are to be practised in the same, mounted, according to the Regulations.

"*Carry Swords.*"—The right elbow to touch the hip lightly; the wrist rounded so as to incline the edge slightly to the left; sword hand to rest on the thigh, the little finger in rear of the hilt.

When proving the tellings off with drawn swords and at the "slope," the sword hand is raised and extended straight to the front, the blade of the sword remaining on the shoulder with the edge up.

"*Slope Swords.*"—By bringing the lower part of the arms square with the upper, and by bending the wrist upwards, and relaxing the 3rd and 4th fingers, the sword is allowed to fall back on the shoulder.

"*Sit at Ease.*"—The sword hand is lowered and allowed to rest on the off wallet, the bridle hand is dropped on the front part of the saddle.

If the command "Sit at Ease" is followed by the word—

"*Sit Easy,*" the sword blade will be lowered and placed between the forefinger and thumb of the left hand, edge to the front, the right hand resting on the thigh, the men will then be permitted to move their limbs, but must not lose their dressing.

On the words "*Eyes front*" being given to men "*sitting easy,*" every soldier will at once assume the position of "*Sit at ease.*"

"*Attention.*"—The position of slope swords is resumed by raising the sword blade, bringing the lower part of the arm square with the upper, the back of the sword on the shoulder. The bridle hand is raised to proper position.

When "*Draw Swords*" is ordered at the walk, the men remain at "*Carry Swords*" till ordered to "*Slope;*" when at the "*Trot*" or "*Canter,*" they come to "*Slope*" directly.

LEAPING.

When the instructor considers the ride sufficiently advanced for the purpose, "leaping" should be generally practised at the end of each lesson.

For the "Standing Leap," bring the horse up to the bar at an animated walk, halt him with a light hand on his haunches; as he rises, feel the reins only enough to prevent their becoming slack; when the horse springs yield them entirely; when the hind feet come to the ground collect the horse again, resuming the usual position and moving on at the same pace; the body is to be inclined forward as the horse rises, and backward as he alights.

For the "Flying Leap" the horse must not be hurried or allowed to rush; but his head must be kept steadily and straight to the bar, with a light hand; position the same as in the "Standing Leap."

In leaping the bridoon will be used.

Checking the horse after he has made the leap must be particularly avoided, as the horse takes it as a punishment, when he ought to be encouraged, and becomes shy of the bar the next time.

The instructor will, of course, use his judgment in varying these movements, so as not to make the lesson too tedious,—practising one day what had been omitted the day before.

During the lesson he will occasionally order "*Halt,*" and "*Sit at Ease,*" or "*Dismount.*"

Whenever opportunity offers the men and horses should be practised in leaping ditches, for doing which the above instructions are equally applicable.

SECTION 4.—DOUBLE RIDE.

Before commencing the Double Ride it is usual for the Ride to "Trot," "Trot Out," "Trot Short," and "Canter," on the circle, "Going Large" once to each hand, and they are also told off, the same as in a Single Ride.

Pl. VII. fig. 1. fig. 2. The Double Ride may be formed by "Half Sections" "*Down the Centre,*" or "*Right and Left Incline;*" on which the Odd numbers incline to the right, and the Even numbers to the left; or by "*Right and Left Pass;*" on which the Odd numbers pass to the right, the Even numbers to the left.

In both cases, the files, on arriving at the boards, go round the manége to the opposite hand from that to which they inclined or passaged, *i.e.*, Even numbers to the right—Odd numbers to the left.

Pl. VIII. fig. 1. Or, when marching in line across the school, by "*Odd numbers Right about Turn;*" on which the Odd numbers go about, changing dressing to the left, and go round to the left.

Pl. VIII. fig. 2. The file leading to the left answers for the pace; the file leading to the right, keeping half a horse's length less forward, his horse's head dressed on the knee of the other. The files pass, always, bridle-hand to bridle-hand.

"*Close your Files.*"—The leading files keeping a steady pace, the remainder walk out till they have the distance for Double Ride, four feet, or trot up to that distance if ordered.

"*Down the Centre.*"—This word must be given in time to allow the files going to the right, to press up even with those going to the left, the leading files turning down the centre abreast of one another, at three yards interval, even numbers dressing by the left.

At the end of the school, the file to the right dresses again as before.

"*Right and Left Turn.*"—Across the school, carefully preserving dressing and interval.

The turns being well made,

Pl. IX. fig. 1. "*Circle Right and Left.*"—Two circles are formed with space of three yards between them, or less, according to the size of the manége; both files to turn from the boards and from the centre at the same time.

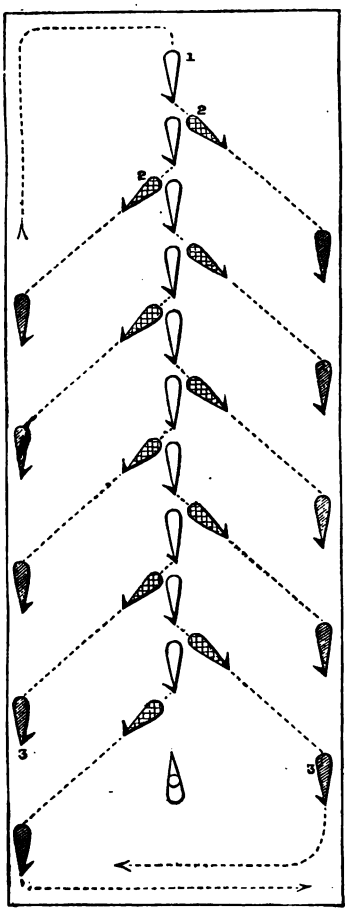
Pl. IX. fig. 2. "*Circle Entire,*" "*Go Large,*" "*Circle and Change.*" The same to be practised to the other hand.

"*Right and Left Turn.*"—Having passed one another in the centre,

Pl. X. fig. 2. "*Rein Back.*"—The men not to look behind them, but to trust to the horse being square, and interval correctly kept, to pass the opposite files.

PLATE VII.

Fig. 1.



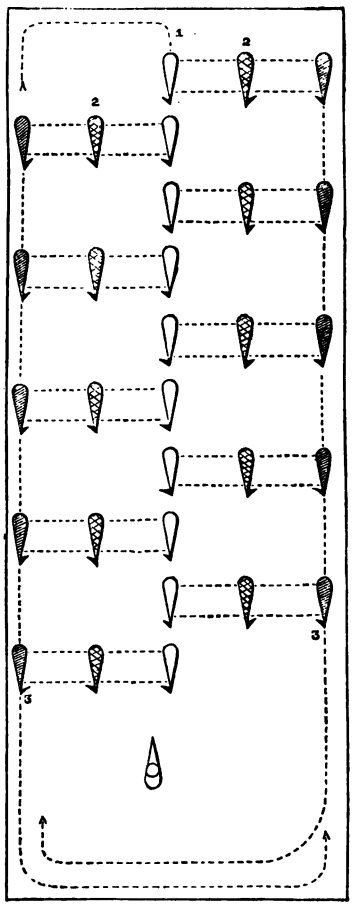
FORMING DOUBLE RIDE.

1 Down the Centre.

2 Right and Left Incline, Odd numbers to Right, Even numbers to Left.

3 Forward by the wall. Leading file of even numbers Eyes Right.

Fig. 2.



FORMING DOUBLE RIDE.

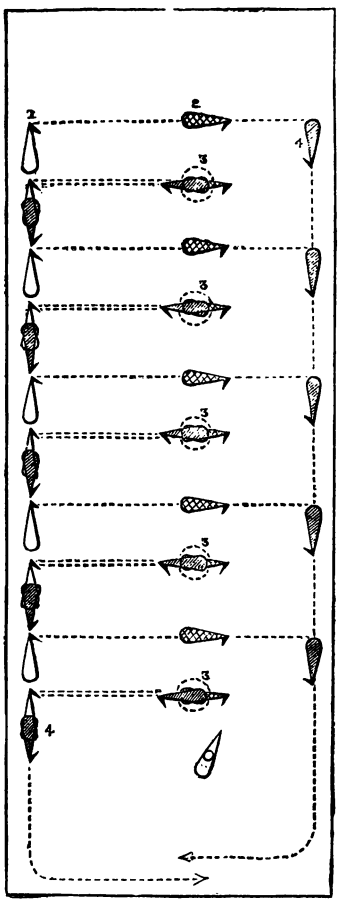
1 Down the Centre.

2 Right and Left pass, Odd numbers to Right, Even numbers to Left.

3 Forward by the wall. Odd numbers, Eyes Left, Even numbers, Eyes Right.

PLATE VIII.

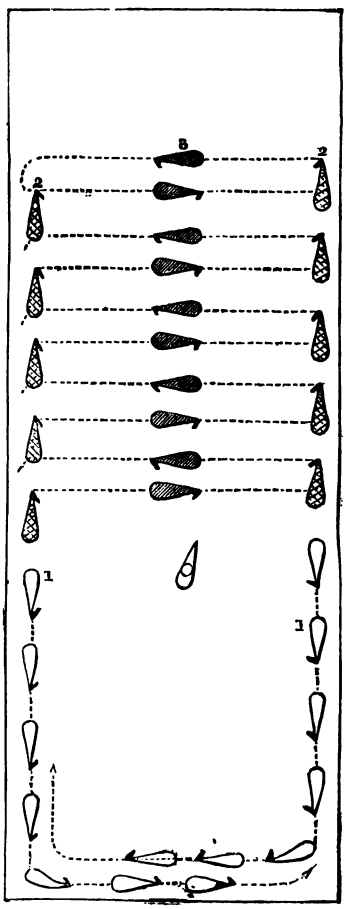
Fig. 1.



FORMING DOUBLE RIDE.

1 In file, in Single Ride. Eyes Right.
2 Crossing School after Right turn.
3 Odd numbers, Right about.
4 Even numbers, Eyes Left, Odd numbers, Eyes Right.

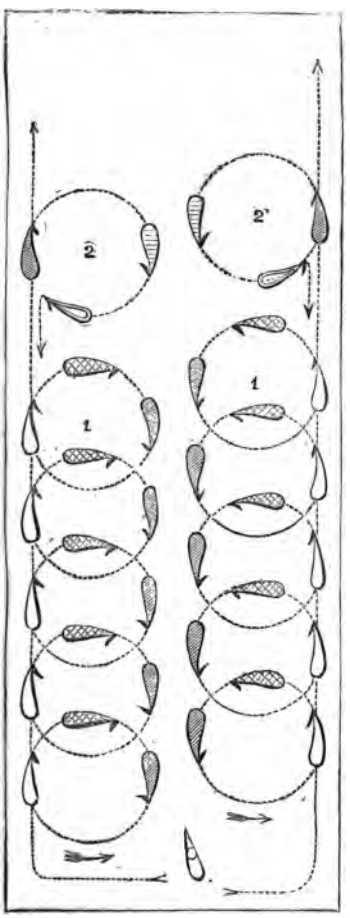
Fig. 2.



1 Close your files.
2 File going to Right, horse's head dressed on knee of file going to Left.
3 Right and Left turn, pass Bridle hand to Bridle hand.

PLATE IX.

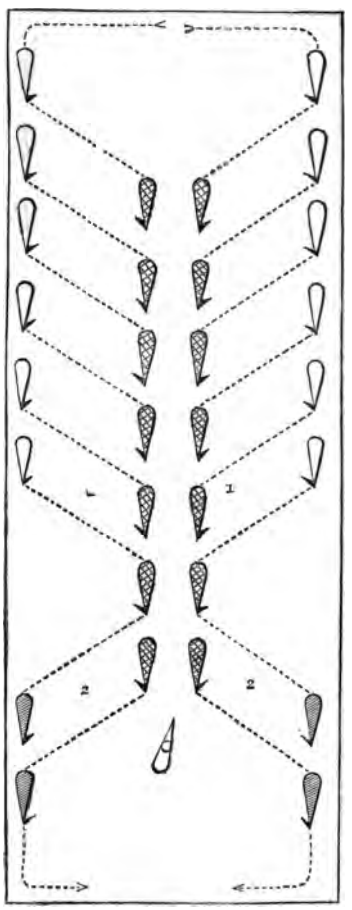
Fig. 1.



1 Circle Right and Left.

2 Circle and change, shown in one Odd and Even number only.

Fig. 2.

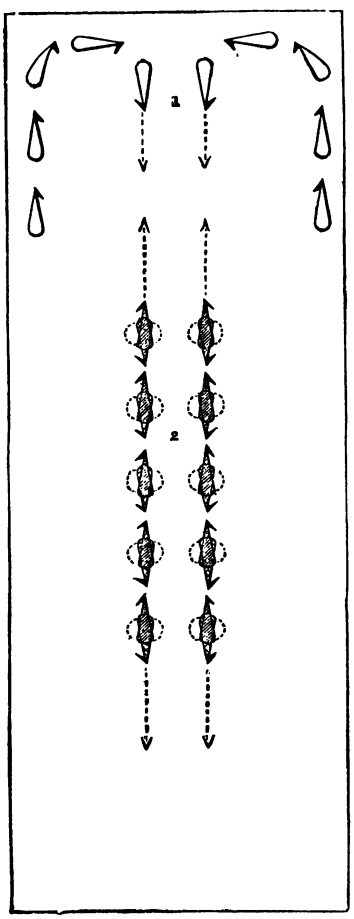


1 Right and Left incline towards the Centre.

2 Right and Left incline outwards shown in two files only.

PLATE X.

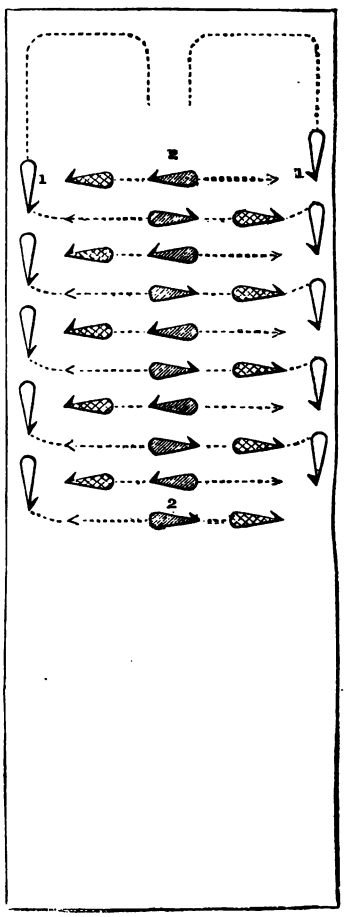
Fig. 1.



1 Down the centre, the Files going to Right. Dress up abreast of files going to Left.

2 About outwards from one another.

Fig. 2.

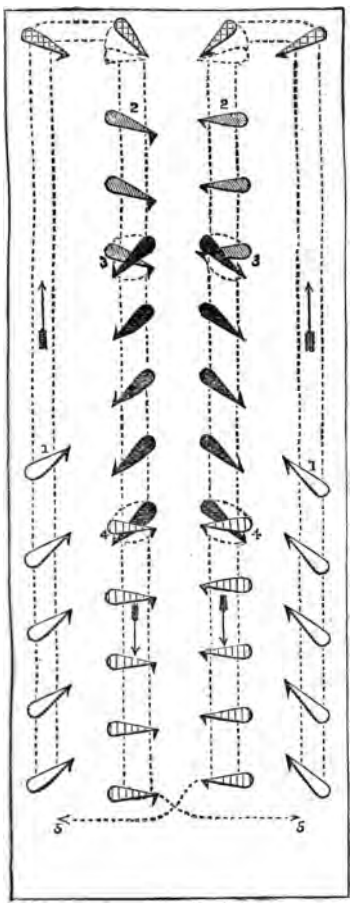


1 Right and Left turn.

2 Rein back, Files passing one another, in reining back.

PLATE XI.

Fig. 1.



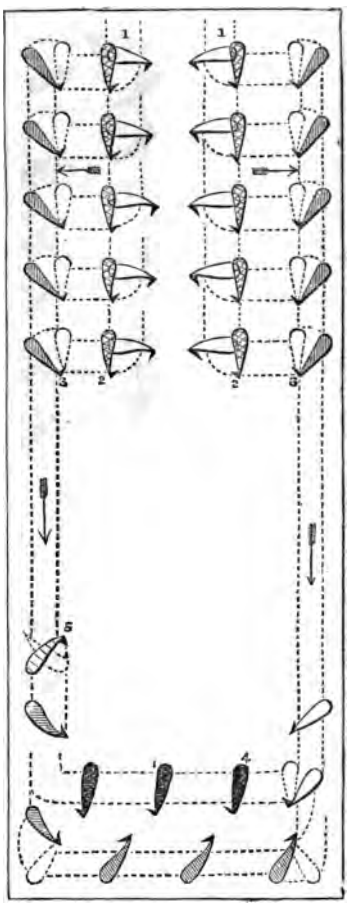
1 Right and Left Shoulder in.

2 Down the Centre Right and Left Pass.

3 Right and Left Shoulder in, the change shown in one file.

4 Right and Left inwards pass, the change shown in one file.

Fig. 2.



1 Down the Centre Right and Left Pass.

2 Right and Left turn on Haunches.

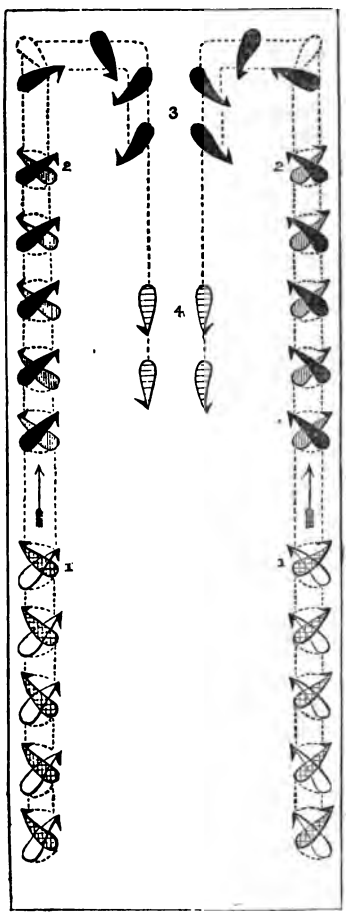
3 Right and Left Shoulder in.

4 Leading file to the Right Pass from Right Shoulder in.

5 Leading file Right Shoulder in again.

PLATE XII.

Fig. 1.



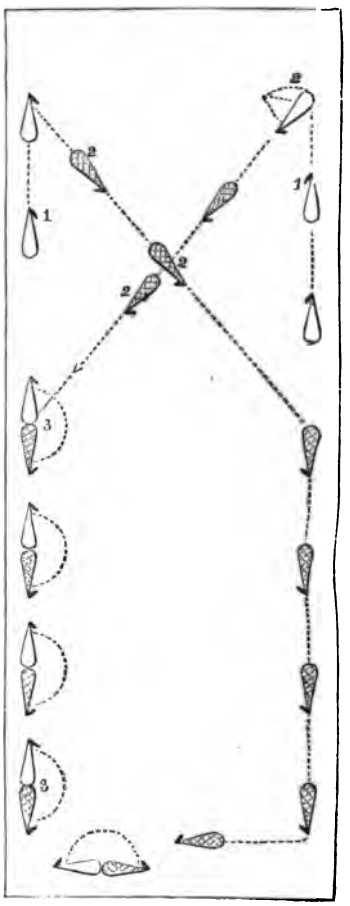
1 From Right and Left Shoulder in, to Right and Left Pass, Shoulder out.

2 From Right and Left Pass, Shoulder out, to Right and Left Shoulder in.

3 Down the Centre, in Shoulder in.

4 Forward down the Centre, or may be by the boards.

Fig. 2.



Canter.

1 Horse's length, and half distance.

2 Turn at the Corners.

3 Even numbers about on the Haunches. Right and Left half passage, *vide* Plate VI., Fig. 1.

"*Forward*," "*Right and Left Incline.*" From the boards, when within three yards, they square the horses together without a command; cover and press forward down the centre.

Pl. IX. fig. 2. "*Right and Left Incline.*"—From the centre towards the boards."

Pl. X. fig. 1. "*Down the Centre*," "*About.*"—The files go about to the hand to which they were working, *i.e.*, outwards from one another. To be repeated to the other hand, "*On the Forehand*" or "*On the Haunches.*"

The "Turns," "Circles," "Inclines," &c., to be done at the walk and trot, as laid down in "Single Ride."

BENDING LESSON.

Pl. XI. fig. 1. 1. "*Right and Left Shoulder in.*"—Up the sides of the manége. When near the centre of the end.

Pl. XI. fig. 1. 2. fig. 1. 3. "*Down the Centre*," "*Right and Left Pass*, "*Right and Left Shoulder in.*"—The horses turning on the centre, continue the Shoulder in on two lines down the middle of the school.

Pl. XI. fig. 1. 4. "*Right and Left—Inwards Pass**. The horses turning on the centre again, continue the passage on two lines down the middle of the school.

Pl. XI. fig. 2. 1. "*Right and Left Turn.*"—The horses turning on the haunches, continue the passage to the boards, and there press forwards again.

"*Right and Left Shoulder in.*" At the end of the school the Files working to the Right receive the word,

Pl. XI. fig. 2. 4. "*Leading File, Right Pass.*"—Each of those files at the corner comes to "Right Pass" in succession, so that the files pass head to head.

When the leading file has cleared those in "Left Shoulder in,"

Pl. XI. fig. 2. 5. "*Leading File, Right Shoulder in.*" Both being at Shoulder in again.

Pl. XII. fig. 1. 1. "*Right and Left Pass, Shoulder out.*"—Horses turning on the centre continue to passage, heads to the boards, and half a yard from them.

Pl. XII. fig. 1. 2. "*Right and Left Shoulder in.*"—Horses turned on the centre.

"*Forward.*"—Horses to be squared, and press forward round by the boards.

* This term is only made use of in the centre of the school.

The succession of these movements may be varied at the discretion of the Instructor, who must pay due attention to all turns being made correctly, whether on forehand, centre, or haunches.

When passing down the centre, at the word,

"*Rank Off*," they rank off alternately, bridle-hand to bridle-hand, commencing with the right leading file; all to come up forehand and haunches together, to the same ground, and no incline allowed in going to the boards.

"*Canter*," "*Down the Centre.*"—The leading files turning together, and leading down the centre, the remaining covering correctly, haunches following true, neither thrown in nor out.

The turns and circles to right and left, down the centre, and about, may be practised as at the trot, as well as the "Half passage to the right and left," from the end of the school.

"*Take four yards Distance.*"—The leading files increase their pace till each has gained his distance in succession.

Pl. XII. fig. 2. 2. "*Turn at the Corners.*"—At the corner, the file leading to the left makes a turn and a half on the haunches, and leads in an oblique line to the other side and end of the school, each doing the same in succession. The files to the right do the same at the opposite corner, each passing close behind the croup of the even number and through the proper interval, preserving distance and covering correctly, to prevent any check or wavering.

Pl. XII. fig. 2. 3. "*Canter*," "*Odd* (or *Even*) *numbers About.*" The files on the left rein go about. They come about on the haunches, being at the boards.

Pl. XIII. fig. 1. "*Circle Right.*"—The odd and even numbers turn to the right from the boards together, circle round each other, advancing with "Right Front Guard."

Pl. XIII. fig. 2. "*Attack.*"—When within measure, the odd numbers cut one and two at the opponent's face; they defend by First and Second Guard; or, the even numbers may attack, and the odd defend.

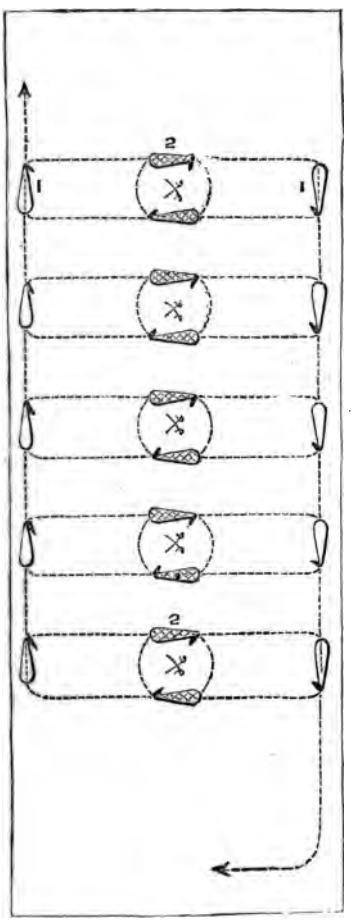
After they have circled round each other, they retire with the "Right Rear Guard."

Pl. XIII. fig. 2. "*Leading Files, Right Incline.*"—The files pass each other left hand to left hand.

"*Circle Left.*"—Circle, as to the right hand, but now they advance with the "Left Front Guard," "*Attack*" as before, and retire with the "Left Rear Guard."

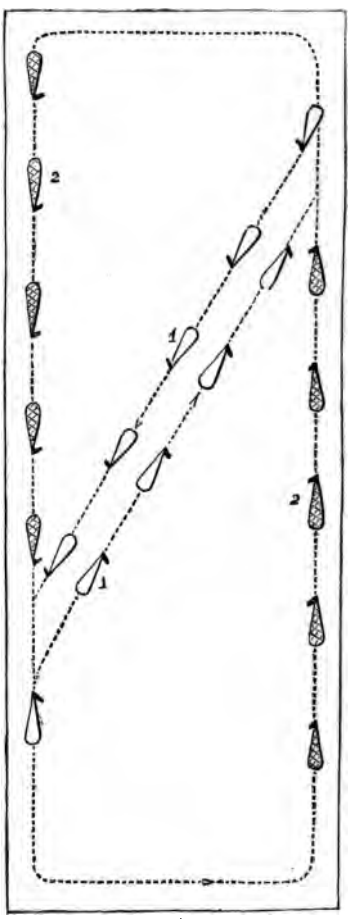
PLATE XIII.

Fig. 1.



1 Files in Canter.
2 Circle Right.

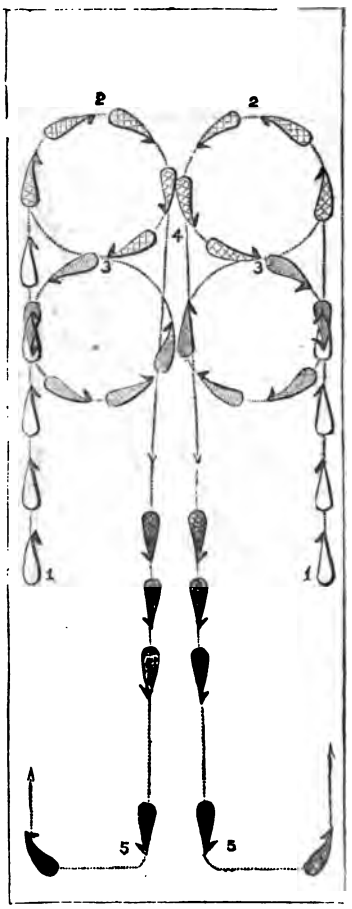
Fig. 2.



1 Leading Files Right incline.
2 When opposite Circle Left.
3 Change by leading Files Left incline, and then even numbers about.

PLATE XIV.

Fig. 1.



1 Close your Files.

2 Leading Files Circle Right and Left.

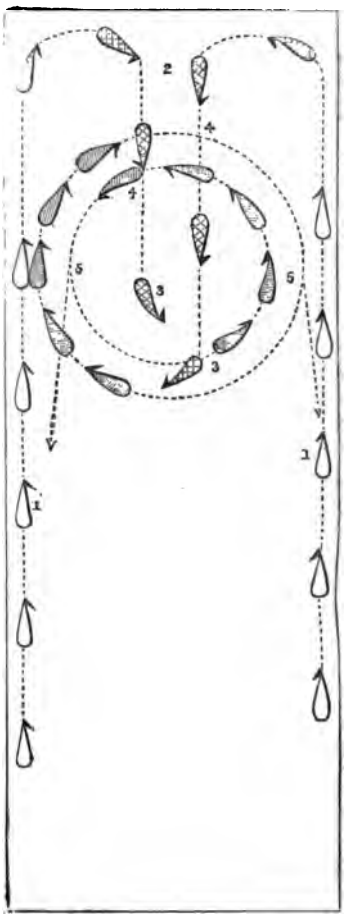
3 Leading Files change.

4 Forward after having changed again.

5 Horse's length and a half from the front.

N.B.—Where the School will allow, the leading files should not come nearer than 3 yards in the circles.

Fig. 2.



1 Odd or Even numbers whichever are working to the Right dress on the interval.

2 Down the Centre.

3 Change.

4 Circle Right and Left files closing.

5 Go large, having circled twice, resuming horse's length and a half distance.

"*Leading Files, Left Incline.*"—Passing again left hand to left hand.

"*Form Sections.*"—The sections having been previously told off, the leading files of each section keep the pace, and the remainder increase it till they have four feet from head to croup. The leaders of the rear sections keep at two horses' lengths from the rearmost files of the leading sections.

"*Sections Circle Right.*"—The leading files of each section will describe a small circle, coming within three yards of each other on the centre.

"*Go Large.*"—When the leading files of each section arrive at the boards.

"*By Sections down the Centre.*"—The leading files of the sections (the files of which were put about after turning at the corners) dress by the leaders of those sections which are right in front, who are answerable for the pace. The sections must turn at the same moment from the ends of the school, bringing the swords to the Right Front Guard; each section dressing by its right file, when turned, and keeping the intervals from the right.

"*Odd or Even Numbers, Attack.*"—The Instructor names any cuts or points for the attacking files, the other defend by the corresponding guards. As the four files of each section meet, they turn to the right round each other, and lead round the school.

This is repeated to get the right section in front.

"*Close your Sections.*"—Rear sections close up at increased pace.

"*Odd*" *or* "*Even*" *Numbers,*" *About.*"

N.B.—It is, however, a better practice with the masks and sticks, (when time can be spared for it), to form the odd numbers at one end, the even numbers at the other end of the school, and then two being named, one from each squad, advance at a canter, and meeting in the middle of the school, take their own mode of attacking and defending; and practising the directions in the *Regulations for Sword Exercise.*

Pl. XIV. fig. 1. 2. "*Leading Files, Circle Right and Left.*"—The leading files turn from the boards, and form a circle to the right and left; the remainder following the track of the leading files correctly; the circle must be proportionate to the strength of the Ride. In narrow schools this cannot be done by odd and even numbers together, but may be done by each in succession, the others being halted.

Pl. XIV. fig. 1. 3. "*Leading Files Change.*"—Making a sharp incline, they change and begin the circle on the other hand; the leading files conform to one

another, so as to turn from the boards and from the centre together; having changed again, and the leading files in the centre of the school.

Pl. XIV. fig. 1. 4. "*Forward.*"—They lead straight down the centre.

"*Take Four Yards Distance.*"

Pl. XIV. fig. 2. 1. "*Odd* (or *Even*) *numbers Dress on the Intervals.*" Those going to the right dress on the interval.

Pl. XIV. fig. 2. 2. "*Down the Centre.*"—When about half way down the school,

Pl. XIV. fig. 2. 3. * "*Change and Circle Right and Left.*"—The leading file to the left being in advance, changes first; the other leading file close behind his horse's croup; all the files to the left changing in front of those to the right.

The files must not turn too sharp, but incline so as to pass close to the croup of the horse, changing before each.

The leading file that has changed to the left, begins his circle as soon as he has changed, at a very collected pace.

Pl. XIV. fig. 2. 4. The leading file that has changed to the right, rides a circle round the others, every one following the track of the leading file, and closing up to four feet distance. When he sees that all have changed, he increases his pace; after circling twice round,

Pl. XIV. fig. 2. 5. "*Go Large.*"—The leading files increase their pace, till the distances are correct again. In beginning this lesson, the change to be practised first without circling.

Pl. XV. fig. 1,1,2,3. "*Right and Left Turn,*" "*Odd numbers Halt,*" "*Even numbers about,*" "*Dress,*" "*Eyes Right,*" "*March,*" "*Canter.*"—Or the Single Ride may be formed in the same way at the "Canter," only that, instead of the files passing, the files that go about do so before the others come up to them, and when they do, move on together.

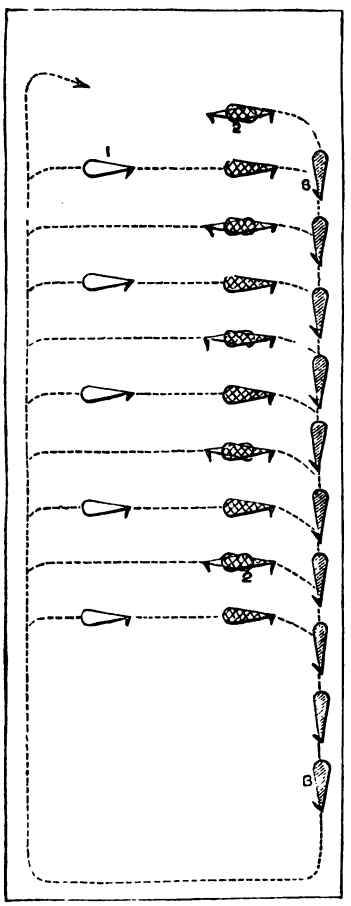
Figure of Eight.—The number of files being equal to the length of the school, and on the right rein, "Cirgle Right," between the boards and centre of the school, and on arriving on the centre "Circle Left" between the centre and boards, and then again "Circle Right" from the centre to the boards, and on the leading file arriving at the end of the school,

Pl. XV. fig. 2. 1, 2, 3, 4, 5. "*Serpentine.*"—The leading file inclines to the right across the school, not too sharply, and makes a zig-zag course down the school, always coming within a horse's length of the side of the manége,

* Many of these movements are adapted for the open manége, and cannot well be done in small schools.

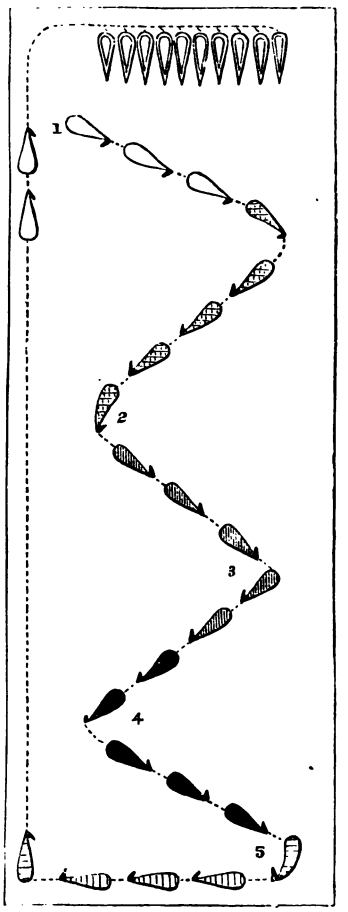
PLATE XV.

Fig. 1.



1. Odd numbers working to Right dressed on the interval Right and Left Turn.
2. Even numbers Left about and forward when Odd numbers abreast.
3 Single Ride formed going to Right.

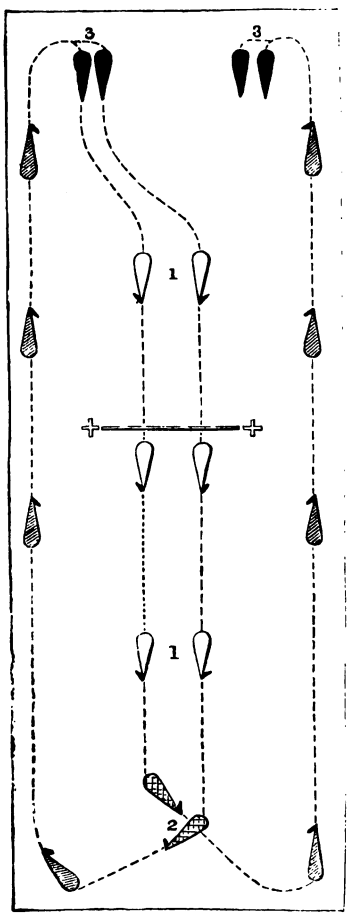
Fig. 2.



1 Commencing Serpentine.
2 First Change.
3 Second Change.
4 Third Change.
5 Fourth Change.

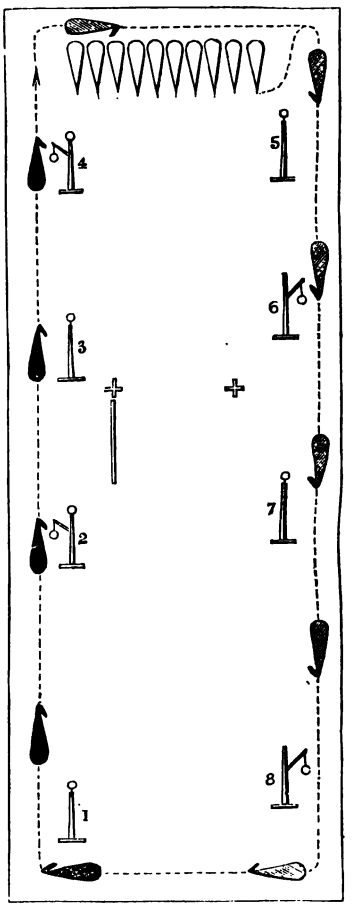
PLATE XVI.

Fig. 1.



1 Files from the Right at three horses' length distance.
2 Change Right hand to right hand.
3 Right and Left about form.

Fig. 2.



1 Ride formed Right and Left about.
2 From flanks to front file three horses' length.
3 Change Right hand to Right hand.

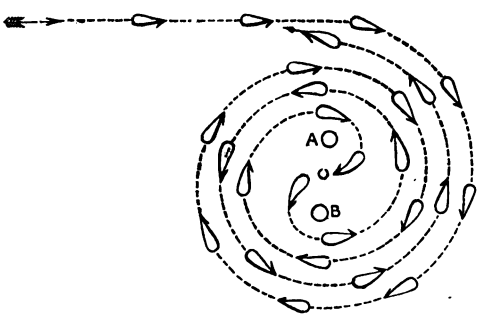
or nearer, according to the size of it; and arriving at the end, he goes the same way at which he commenced.

In turning to the right, the horses to canter to the right; in turning to the left, change and canter to the left; the change to be made without checking, neither throwing the haunches in nor out, but exactly following the leading file.

Before "Serpentine" is done at the canter, it should be tried at the walk and trot.

After the Serpentine, the following may be practised by first-class rides, at the discretion of the commanding officer:—

Two rides, 16 each, in the school going large on the right rein. Two markers dismounted A and B are placed facing each other between the first markers on the boards, about a horse's length and a half apart. When the leading file arrives at the first marker, the command "Leading file, spiral" is given. The leading file then describes a large circle and continues circling within the last-described circle until he has completed three circles within the outer original circle, which will have brought him to the markers in the centre of the circle. He then turns to the right through the markers, changes to the left rein at C, and continues describing circles between those, still on the right rein, until clear of the rear of the rides. The leading file should gradually diminish his pace until the change between the markers A and B is made, when he will again gradually increase it till the spiral is completed. The pace must be again collected in making the final circle before "going large."



The extra Ride then leave the school, and the original Ride,

Pl. XV. fig. 2. | "*Right about Form.*"—At the end of the school at loose files.

Pl. XVI. fig. 1.

The Ride may now leap by twos over the bar in the centre; first at a walk, and then at a canter; or may perform the post practice.

Pl. XVII. fig. 1.

The Instructor may vary the order of succession of the foregoing movements; nor is it intended that all should be performed in each lesson.

At the end of every lesson, the Ride is formed, at loose files, at the end of the manége, and advances in line the length of the school, varying the pace from "walk" to "trot," and "canter," on different days. The Instructor is to see that the whole lead with the same leg, according to the dressing.

Occasionally it is a good practice to name two men, three or four files distant, or odd and even numbers alternately, who, on the word "*March*," advance at the pace ordered, preserving their dressing distance and straight direction to the end, where they are halted. Two others being named, do the same, and so on, till the whole Ride is formed near the end. This accustoms the horses to quit the ranks readily, and the men to start them true and square with the proper aids, and to keep them in a straight line without swerving, when unsupported by other horses on the right and left.

When halted near the end, it is good practice to commence firing in the lesson, one pistol is fired in front of the Ride, encouraging the horses, and giving a handful of oats to those which are timid.

After firing, the horses may be advanced into the smoke. This is found to steady the horses more effectually than a great deal of firing mounted, before the horses are accustomed to it.

POST PRACTICE.

The posts to be placed round the school at about ten paces between them, and about four feet from the side, those for "cuts" supplied with wooden heads, and those for points with "rings" or "large leather balls." This practice is to give confidence and precision in the application of the Edge and Point, as well as celerity and judgment of time and measure of distance. It should be first practised at a walk, and so on progressively to a canter.

Each man to advance with the "Right Engage," and arriving near the first post "Assault."

First post, "*Cut One.*"

Second post, "*First Guard,*" "*Point.*"

Third post, "*Cut Two.*"

Fourth post, "*Second Guard,*" "*Point.*"
Fifth post, "*Cut Three.*"
Sixth post, "*Third Guard,*" "*Point.*"
Seventh post, "*Cut Four.*"
Eighth post, "*Fourth Guard,*" "*Point.*"
When the practice is performed to the left, the posts are to be reversed.

The posts may also be placed to suit the cuts and points of the pursuing practice.

SECTION 5.—TRAINING OF THE YOUNG HORSE.

The first object in the training of the horse is, by gentle and progressive lessons, to make him quiet and tractable; for which purpose, all the proper means must be used—such as feeding, patting, handling, rubbing him, taking up his feet, &c.

The practice of the longe is intended for this purpose, as well as to render him supple, to give him the free and proper use of his limbs, to form his paces, and to prepare him in all respects for the service.

This part, therefore, of the instruction of the horse, as it requires great judgment, patience, and attention, should be entrusted only to the most careful and experienced men. If harsh treatment be used he will become timid, and the fear of being roughly treated will incline him to resistance and disobedience. Every kind of violence and severity must therefore be avoided.

BRIDLING.

The horse being brought to the riding house, or longeing ground, a plain snaffle bridle is to be placed in his mouth, so as to touch lightly both corners of it without gagging, or making him uneasy: the throat band must be sufficiently slack to admit the breadth of three fingers under the jaw-bone. The snaffle reins are to be tied, so as to hang loose upon his neck.

CAVESSON.

The snaffle bridle having been properly fitted, the horse should be encouraged, and the cavesson put on. It should be placed about three inches above the nostrils; if higher, it would partly lose its power; if lower, it would affect his breathing.

The strap of the cavesson, (which should act as a nose-band,) going above the snaffle, must not be buckled too tight, as the horse would thereby be made uneasy; the additional

strap from cheek-piece to cheek-piece, under the jaw-bone, is to keep the cavesson back from his eyes. The preparations should be made by two men only; if more be employed a young horse is apt to take alarm. No noise with whips should be made, and care should at all times be taken that nothing may hurt, tickle, or otherwise annoy him.

The first lesson to be taught a young horse is to go forward, and until he does this freely nothing else should be required of him, as it might cause him to become restive.

When he is accustomed to go forward readily, he should be occasionally stopped and caressed.

LONGEING.

This lesson should be begun on a circle from 20 to 30 yards in diameter. As horses are usually fed, watered, saddled, and led on the near side, they are generally inclined to follow and lead better by the left rein than by the right. If, therefore, it should be found that a horse is less tractable on the off than on the near side, two lessons should be given on the right to one on the left. A young horse must not be supposed to be restive if he should hesitate, or stand still, when it is intended that he should move on; because this often happens from fear, or from his not knowing what is required of him, which may be overcome by encouragement.

A man with a whip (with which the horse must not be struck at first) following at a distance, should show it now and then, when the horse seems to hang back; he should strike the ground in the rear of the horse if he disregards the encouragement of the man who leads him. When this does not produce the effect, he may be lightly touched with the whip behind the girths.

After the horse has been led several times round the circle at the walk, the man holding the longeing rein should gently urge him to the trot; if the horse goes quietly, he gradually lengthens the longeing rein, so that the horse may scarcely feel it; he should continue to go round the circle at an active pace, nearly opposite the horse's shoulders, so as to keep him out and press him forward.

If the horse takes kindly to his lesson, the man holding the whip will be sufficient to keep him out to the circle, and up to his pace; and the man holding the cavesson may lengthen it by degrees, until the circle on which he himself moves becomes a small one, or until he has only to turn round on the same spot. Should the horse shy or plunge, the cavesson rein may be shaken, without jerking, which will bring him to the trot or walk again. The man holding the rein

ought to have a light and easy hand. For the first two or three days the horse should not be urged too much; if he goes gently, without jumping or resisting, it is sufficient. In this manner the horse may be longed to the right, left, and to the right again, changing often from the walk to the trot. When he has been longed a few times to each hand, he should be halted, by gently feeling the longeing rein, and by speaking to him; the rein should be carefully shortened, and gathered up in the hand, and the horse led to the centre of the circle, caressed, and dismissed.

Having practised the above lesson for a few days, the horse may be urged a little more in the trot, but the greatest care and attention are requisite to teach him to use his limbs without straining them. An accident may easily occur in this lesson by a sudden jerk, or by a too forcible pull of the cavesson.

After each lesson, which ought never to be so long as to fatigue the horse, he should be led into the centre of the circle, and placed straight upon all fours; he should then be caressed, and a few oats may be given to him. The man holding the longeing rein should take it short in one hand, at the same time patting and rubbing the horse about the neck and head with the other; he should then try, with the right hand, to "bend" the horse's head a little to the right; the "bend" ought to be in the very poll of the neck. This must be done very carefully, and by slow degrees; and, if repeated after each lesson, to the left as well as to the right, it will greatly assist the future instruction.

After the bending lesson the horse must be tried in "reining back." The man who holds the cavesson, placing himself in front and facing the horse, should take the snaffle reins near the rings in both hands, and endeavour, by a gentle and alternate pressure of the bit against the bars of the horse's mouth, to make him go back a step or two, always moving him forward after reining him back.

If he yields to the pressure of the bit, this will, at first, be sufficient.

SADDLING A YOUNG HORSE.

This should be done, in the first instance, in the manége, or longeing ground, and with the utmost caution. One man facing the horse, and taking the snaffle in both hands near the rings of the bit, should hold him while another places the saddle on his back, the girths and stirrups being laid upon it. The girths are then to be carefully let down, and the saddle placed in the middle of the horse's

back, the front of it about the breadth of a hand behind the play of the shoulder.

"Girthing." Having placed the saddle, and the horse showing no uneasiness or resistance, the man takes the girths very gently, and draws them on each strap, loosely at first, so as merely to prevent the saddle from falling off; he afterwards tightens them by degrees, by drawing them on the straps alternately, a single hole at a time; great care must be taken that the girths be not drawn so tightly as to occasion uneasiness to the horse; they should always admit of the fingers being passed easily between them and his body.

The horse, being thus treated kindly and carefully, and the saddle kept on his back for a few hours each day, will soon bear to be saddled with less caution, but a proper degree of it must always be observed in girthing horses, whether young or old.

CRUPPER.

Great caution must also be used in putting on the crupper; any mismanagement in the early attempts may create a difficulty not easy to be overcome. Almost all horses will bear a smooth firm handling of their quarters and tail if gradually begun by patting and rubbing the body; but few will suffer a light or undecided touch, which therefore must be carefully avoided.

In putting on the crupper, care must be taken that none of the long hair of the tail remains between it and the dock. The crupper, when properly fitted and placed, should admit the breadth of the hand between it and the croup of the horse.

The saddle being properly fitted on the horse's back, the stirrups are at first to be fastened across the saddle; when the horse goes quietly, the stirrups may be let down, in order to accustom him to them.

He is now to go through the former longeing lesson; but no attempt to mount him should be made until he becomes reconciled to the saddle.

THE CROSS.

In order to bring the horse to lift his forehand and carry his head properly in the longe, and to give him a feeling of the snaffle before he is mounted, the cross may be used (particularly with young and weak horses). It must be buckled on with or without saddle, with the same care as in saddling. There should be three buckles at different heights on each

upper arm of the cross. The cross reins should be fastened, one end to the ring of the snaffle, on each side, and the other ends to the buckles of the cross; to the highest for those horses whose heads want raising; to the middle one for those horses where the head is naturally well placed; to the lowest for those who carry their heads too high.

The reins should be quite easy at first, and are to be shortened by degrees, and with great care not to gag, or confine the horse too much, or produce a constant and dead bearing on the snaffle. To produce the bend, the rein on the hand to which the horse is longeing, may be one or two holes shorter and lower than the other.

The reins must be altered when longed to the other hand.

Great care must be taken not to press the horse too suddenly up to the snaffle by showing the whip; it must be done by slow degrees and with great gentleness.

MOUNTING.

When the young horse becomes used to the saddle, and the Instructor finds him sufficiently prepared by the exercises of the longe, he is to be mounted, in doing which great caution and quietness are necessary; and two men should assist the person who is to mount.

One with the cavesson, facing the horse, is to hold him with the bridle, keeping his head rather high, and engaging his attention; the other, on the off side, should take hold of the stirrup-leathers near the saddle-tree, with the thumb upon the strap and the fingers under it, and by pressing upon it with the elbow at the proper moment, keep the saddle even while the man is mounting.

The man who is to mount (who should at first be without spurs) must proceed with great gentleness, frequently commencing, stopping, and beginning again, until by flattering and caressing the horse between each attempt, he finally seats himself, and takes the snaffle reins in each hand, lightly feeling the horse's mouth.

If the horse has been perfectly quiet during the above operation, he may be carefully led forward and encouraged; the man who leads the horse by the cavesson rein should fix his eyes attentively upon him; and if he perceives any disposition to kick or plunge, must try by gently shaking the cavesson, to keep his head up and engage his attention. The horse should then be led round the circle at the walk; right and left; halted in the centre, caressed, and a few oats given to him.

The man should dismount with the same care and attention; and once more mount and dismount; making much of the horse afterwards. He should then bend his head to the right and left, make him step back a pace or two, and dismiss him.

This lesson should be continued for a few days, until the horse performs it with ease to himself, and allows the man to mount and dismount without the least difficulty. When the horse becomes familiar with the circle, and is accustomed, by the gentle application of the aids, to go forward, to bend, and turn to the right and left, to rein back, and to halt, the cavesson may be taken off, and he may be ridden round the manége, or longeing ground, a man on foot occasionally assisting.

The horse must be confirmed in the walk and trot round the manége. The quicker paces grow out of each other. When the horse walks freely, he is to be pressed into the trot, moderately at first, supported by a light and lively hand; then into the full trot, whenever the Instructor shall think him sufficiently practised in the former lessons.

All aids, with a young horse, particularly in his early lessons, ought to be as simple as possible, to be easily understood by him. The young horse is now supposed to be, in point of instruction, on an equality with the most tractable of the remount horses when they first join a Brigade.

ACCOUTREMENTS AND BAGGAGE.

When the young horse has become used to the bit, and goes through his lesson without being annoyed by it, he must gradually be accustomed to be ridden with the sword and other accoutrements and saddlery, in "Field Day" and "Marching Order."

Great caution must be used in putting on the baggage: this should first be done a few times in the manége, the valise being only lightly stuffed with hay, and the weight of the necessaries added by degrees.

LEAPING.

At first a young horse should be led over the bar lying on the ground till he passes over it without alarm.

The bar may then be raised by degrees, and he will, by encouragement, learn to leap coolly in hand, from two to three feet in height.

If impatient in going up to the bar, he should be halted, reined back, halted, and tried again, till he leaps coolly: if

allowed to hurry or rush, he will become an uncertain and unsafe leaper.

When he leaps well in hand standing, he may be ridden over the bar at a moderate height, the same method being taken to prevent rushing.

When perfect in this, he may be put to the leap at the "Walk," "Trot," and "Canter," leading sometimes with the off, sometimes with the near leg. When he has leaped well once or twice at most, encourage and dismiss him.

OF SIGHTS AND SOUNDS.

Young horses must be gradually accustomed in the manége to drawing and returning swords, the sword and lance exercises, drums, and firing, both mounted and dismounted.

The horse, being naturally afraid of these things, must not have his terror added to by harsh treatment. Patience, and gentleness being used, and the horse finding that these sights and sounds do him no injury, and are not accompanied by chastisement, he soon becomes familiarized with them, and sees and hears them without alarm. One minute's loss of temper, or violence, in the rider, may throw the horse back for a month.

In all practice with arms, at first, suddenness of movement should be avoided, and every thing be done smoothly and quietly.

To use the horse to firing, a cap should be snapped at the end of each lesson, for some days, and a little corn given to him after it; and then firing the pistol daily, giving a handful of corn after it, will generally succeed in preparing him for firing in the ride.

When the horse is steady to arms and firing in the school the same method should be tried in the barrack-yard or open manége.

SECTION 6.—OF TRAINING HORSES WHICH HAVE BEEN ALREADY RIDDEN.

Remount horses, which have been already ridden, should at first be mounted by practised horsemen, with stripped saddles and snaffle bridles. The best lessons in horsemanship are received in training young horses; and as soon as the Soldier is qualified by previous exercise on formed horses, he should train a young horse under due superintendence.

Whenever a horse makes resistance, the saddlery should be carefully examined, in order to find out whether any part

of it hurts or tickles him; whether his awkwardness in performing his lesson proceeds from ill temper, weakness of limb, or constitution, or from previous ill treatment; and it must never be forgotten, that it is necessary, at first, to proceed with horses by slow motions and degrees, in order to give them time to understand what is required of them.

Patience and skill hardly ever fail in making a vicious horse tractable: mere force or want of skill and coolness, only confirms him in bad tricks.

The dispositions and capacities of horses are various, and must be carefully studied; the timid encouraged, the impetuous and restive subdued by patience and firmness.

The preparatory lessons for the horse, previous to his being ridden, have been explained in SECT. V.

When the horse has rested a little after the longe, he may be mounted, dismounted, and led on the off, as well as the near side.

The horse should now be ridden at the walk once round the manége, making the corners angular, not round; he may then be made to turn to the right and to the left, across the manége and to change by inclining, ending with going round the manége: he should then be placed square on his legs, caressed, and dismissed.

These movements, repeated and varied, will be sufficient for a few days, and will prepare the horse for similar lessons at the trot.

The snaffle reins must be held in the hands separately, and somewhat asunder, in order to raise the horse's head and neck; this will also tend to give freedom to the shoulders, and to collect the haunches under him.

The horse must be kept attentive by a light feeling of the bridle, and by a gentle pressure of the calves of the legs, so as to teach him to obey the mouth-piece. The pace must be decided and animated, but not fast.

The horse having gone through a part of his lesson at a walk, to both hands, may be urged to the trot, repeating the turnings, and inclining to the right and left, as in the walk, but varying their order. After the trot he is again walked, halted, made to bend to the right and left, to rein back, to advance, and to halt: he may then be caressed and dismissed.

The trot is a lesson of great importance to the well-training of a young horse, and pains should be taken to confirm him in the free and extended practice of it.

The trot must be moderate at first, and the step true and regular. As the horse improves, he should be made to trot

out occasionally restrained by the bridle, and urged by the pressure of the legs, so as to lighten the shoulders and throw the weight more on the haunches: this prepares him to stop, to turn, or to advance with rapidity, and gives ease and grace to all his movements.

In all lessons, whether at the walk or trot, the pace of the horse must be firm, regular, and even; he should be made to look to the inside, and bend, in some degree, to the hand to which he works; this is done by shortening the inward rein in the degree required.

The halt is a material part of the lesson, and may be repeated advantageously if done with judgment.

It assists in bringing the horse's haunches under him, and in making him attentive to the rider, by whom, at the same time, he should be somewhat animated.

After the halt, it is proper to rein back. It must be done with great caution, and very slowly: the rider must not at first raise his hands, as it would throw too much weight on the quarters, for which the horse must be prepared by degrees.

In advancing, after reining back, the horse's head must be kept up; he must be pressed forward in order to make him bring his haunches under him.

It must be a general rule never to break or depress the noble and generous spirit of the animal, by continuing this lesson until he grows dull and tired, and his strength and wind fail him; caresses and signs of approbation on the one hand, and occasional excitements on the other, are the proper means of calling forth all his exertions. By the former, everything may, in general, be done, with the advantage of having all his movements executed with activity and vigour, and the natural progress of his improvement continued without interruption.

Chastisement may occasionally be necessary; but it need very seldom be resorted to with horses placed in skilful hands; it should never be used except with perfect coolness and deliberation, and not until the Instructor has satisfied himself that the horse knows what is required of him, that no natural defect, or other cause, prevents his ready obedience; nor until the more gentle methods have failed.

The bend proper for a young horse begins from the poll of the neck, so that the rider can see the horse's inward eye, and that the forehead and nose of the horse be nearly up and down, in a perpendicular line. If the nose were drawn more towards the breast, it would confine the motion of the shoulders, and produce other bad consequences.

The horse must not be kept long on the bend. The upper joint of the neck, being unaccustomed to so great a turn, must be brought to the bend by degrees;—it is equally necessary that he should be unbent very gradually and carefully; if this were to be done suddenly, or roughly, he would probably resist the bend the next time, or would not yield to it without difficulty.

As soon as a horse bends kindly to the inward rein, he will make much progress in the pliancy of every part of the body, in each succeeding lesson.

The Shoulder in helps to supple the shoulders, and to dispose the horse to draw his haunches under him.

When he is properly bent in "Shoulder in," his whole body from head to tail is curved, and he will move in two lines parallel to the side of the manége, and always at the same distance from them; the shoulders leading; the inward crossing over the outward leg.

When this exercise is practised in the riding house, the horse should move so that his hind legs may be a full yard clear of the boards, in order to give space for his action, and to prevent accidents.

A horse that is dull and heavy in this lesson must not be hurried; by repeatedly turning him into file, and then resuming the "Shoulder in," he will gradually learn what is required, and obey more readily.

When the horse has been duly prepared by the previous lessons of "Shoulder in," he may commence the half passage from the incline.

In this exercise he should only be required to half cross his legs, placing one foot before the other, advancing at the same time that he moves sideways; it is an introduction to the full passage, in which one leg crosses over the other, and the movement is sideways only.

The motion of the horse's legs in "Passaging" is the same as that in "Shoulder in," but the head is turned differently. In the "Shoulder in," the horse looks the contrary way to that in which he moves; in the "Passage," he looks the way he is going, and follows the leading rein, his shoulders preceding his haunches, the body placed obliquely on the lines on which his legs are moving.

When the horse has been taught to "Trot" freely, and has become familiar with the lessons of "Shoulder in" and "Passaging," he may be trained to the "Canter" and "Gallop."

As far as relates to the general action of the horse, the "Canter" is the same as the "Gallop," whether it be the

short collected step of the manége, or the extended pace of the charge; there is this difference, however, which distinguishes them, viz.:—

In the "Canter," the horse's forehand is raised, his whole figure is collected and shortened, his neck bowed, and his head drawn in, and he moves by the spring of his haunches.

In the early lessons, the "Canter" of a young horse is generally long and loose, but by practice and good riding it will gradually become short and collected. After the practice of the trot, the horse should be caressed, and permitted to breathe a little, he should then resume the "Trot," (which should be short and collected), and at the corners his forehand should be raised, and at the turn he should be pressed into the "Canter;" he will seldom fail, if urged at the right moment, with a stronger pressure of the outward leg, and a double feeling of the inward rein, to lead with the inward leg. This, like other lessons, must proceed by degrees. At first cantering round the manége will be sufficient. In the change by inclining, when arrived within a few paces of the opposite side of the manége, the young horse must be pulled up and brought to the "Trot," and the "Canter," resumed at the next corner, when, if the aids be well timed, he will lead with the inward leg; the horse should afterwards be made to halt, to rein back, and to move forward; he may then be caressed and dismounted.

When the horse is confirmed in the Canter, and has been taught to obey the aids in "Shoulder in" and "Passaging," he may with ease and safety be made to turn across the manége at the "Canter," without altering his pace.

The horse must then be taught to circle, beginning at a walk; the "Circle" being at first large, and made smaller by degrees.

When the horse has a firm, even, and "cadenced" pace, at the walk in circle, he may be pressed into a gentle "Trot," and then into the "Canter," which is to be shortened and collected by degrees, though never so as to affect the spring and freedom of his action.

In the circle, the hind to follow the track of the fore-feet; if the haunches are thrown within the circle too much, a strain will be thrown on the hind-quarters; if the haunches are thrown without the circle, too much strain will be laid on the shoulder.

The greatest care must be taken to avoid both these faults.

BITTING.

The horse being obedient to, and well bent and collected with the snaffle, he may next be bitted. (See SECT. II.)

A formed horse must be ridden on the bit entirely; but on first bitting, the bridoon is to be used in aid, and to bring him to the bit by degrees.

At first the bit rein to be held loosely without feeling the mouth,—the bridoon only to be used as a snaffle. Afterwards the bridoon-rein is to be taken through the left hand into the right, and by feeling the bit gently with the bridle-hand, the horse is to be made to step back, and encouraged when he obeys.

Next, in Shoulder in, the inward bit-rein may be felt till he yields to it and bends.

Also the horse being halted by the wall, may be bent by a light play with the inward bit-rein.

At length, the bit alone may be used; but the right hand should for some time be ready to assist, by supporting with the bridoon-rein, if the horse is uneasy with the bit.

Where a horse continues uneasy and fretful with the bit for a long time, the mouth-piece is most likely ill suited to him, and should, if possible, be changed; or it may proceed from his not having been sufficiently prepared with the snaffle; in which case the snaffle should be resumed, and the bitting put off a little longer.

BREAKING IN THE YOUNG HORSE FOR DRAUGHT.

The horse should have the harness put on in the stable with the utmost caution; no roughness should be used in putting the collar on, and the traces must be very carefully fastened to the hame hooks, so that in the event of the horse jumping about they will not become loose and hang about his legs; the horse should then be fed in his harness, and after standing for some hours be walked about in it.

When the horse has thus been fed and walked about, and is reconciled to the harness, the traces should be loosened from the saddle or pad and a rope tied to each; the ends of each rope should be held by a man, who will take care not to allow the traces to rub against the horse too much at first, but accustom him to them by degrees.

The horse having become accustomed to the pressure of the collar and traces, may then be hooked in with steady horses. Whilst being put in the utmost caution should be observed, and a fore leg held up if necessary whilst the traces

are being fastened, and all noise or shouting should be avoided. After being put in, the horse should be allowed to stand still for some minutes before the carriage is started, and it should be put in motion by the other horses. The horse should be left entirely to himself, and not expected to draw at first, all that should be demanded of him is to move forward quietly, he should generally be hooked in as a hand horse, the off centre being the best place; the bearing rein should be cast loose, and the side rein unbuckled.

Great care should be taken in putting a horse in the shafts for the first time, as he is frequently very timid and afraid of approaching them. The horse should be brought up with a very steady horse alongside him, and backed quietly into the shafts, and allowed to stand there for a moment or two before they are raised; as soon as the shafts have been passed through the tugs the traces should be hooked in and the kicking strap fastened; it is always advisable to use it at first, even with the quietest horse. Unhooking should be done with as much caution as hooking in, and special care should be taken to lower the shafts gently without noise, and allow the horse to stand still for a few minutes before leading him away.

SECTION 7.—MODE OF SWIMMING A HORSE.

Occasions may occur on service where a man may be obliged to swim his horse; the rider should take up and cross his stirrups to prevent the horse from entangling himself with them; he should quit the bit reins and scarcely feel the bridoon, and any attempt to guide the horse must be done by the slightest touch possible. He should lean his chest as much over the horse's withers as he can, throwing his weight forward and holding the mane to prevent the rush of the water carrying him backwards. If the horse appears distressed, a man who cannot swim may with safety hold the mane, and throw himself flat on the water, thereby relieving the horse from his weight. When the horse comes into his depth, he may again get back to his saddle.

SECTION 8.—DISMOUNTING AND MOUNTING.

When the squad is to Dismount, the command is given,

"*Prepare to Dismount.*"—The even numbers rein back one horse's length; dress to the right; the whole then proceed with the preparatory motions.

"*Dismount.*"—This is performed as directed in the preceding instructions.

When the squad is to Mount, the command is given,

"*Prepare to Mount.*"—The several preparatory motions are executed in quick succession.

"*Mount.*"—This is performed in the manner previously directed, the even numbers move up into line without waiting for a word of command.

SECTION 9.—LINKING HORSES.

It may sometimes be necessary to link horses in order to enable men to parade on foot, or for other purposes.

"*To link horses.*" "*Prepare to dismount.*" The even numbers of both ranks rein back one horse's length, and the whole dismount in the usual manner, and the even numbers move their horses up into line. Each man then takes a pace to the front and turns about, unfastens his head rope, passes it down between the reins, and then (from the right to the left) passes it over the reins, and after passing it through the collar ring of the horse next to him, knots the end of it in the collar ring of his own horse.

If the men should be called away upon any duty, a sufficient guard will invariably be left in charge of the horses.

The men fall in to mount at the word "*Stand to your horses,*" followed by "*Attention.*" They are to front their horses' heads, holding each bridoon rein near the ring, and at the word "*Prepare to mount*" each man unfastens his head rope, and after disengaging it from the collar ring of the next horse puts it over the horse's neck to the off side, and fastens it; the even numbers rein back their horses to the stated distance, and the whole step in to their horses, and proceed to mount in the usual manner.

Ropes should be fastened so that when linked the horses' heads are not more than a yard apart. The best knot for fastening the ropes to the collar ring is that called a "fisherman's bend."

PART IV.

GENERAL INSTRUCTIONS.

SECTION 1.

GROOMING IN STABLES.

Pick and wash feet on coming in. Wash eyes, nostrils, dock. Begin at off hind-quarter, go towards the head, curry the dirt out, then brush it with a straight arm, with circular motion, against as well as with the grain, until perfectly clean; the hand not immediately in use to be kept on the horse, to prevent his closing on the groom. Currycomb never to be used on the horse except to take off the dirt.

After a march, when men arrive at stables, or encamp, they are first to take off bridles, tie up the horses by the head collar and ropes, loosen girths, turn up crupper and stirrups, wipe bits and stirrups. Then take head-collar off, turn the horse about, sponge nostrils and eyes, rub his head with a dry wisp, turn him about again, put on the head-collar, and give hay.

After an interval to refresh the men, saddles are taken off, horses fed, watered, and bedded. The horse's blanket is used for his covering at night, with surcingle. Upon the vigour and exertion with which grooming is performed greatly depends the condition of the horse, especially under fatigue and exposure to weather. By hand-rubbing the legs and ears, not only until they are dry, but until the blood circulates freely, the health will be greatly preserved.

Immediately the saddles are removed, the men must be taught to examine the shoulders, withers, and docks, and be most particular in reporting the least tenderness, heat, swelling, or galling. Non-commissioned officers are to pay strict attention to this, and see that the pads and collars are often beaten to prevent knots in the stuffing.

FITTING SADDLES, BRIDLES, AND HARNESS, &c.

"*Saddle*" is to be placed in the middle of the horse's back, the front of it about the breadth of a hand behind the

play of the shoulder, paying particular attention that the tree does not touch the horse's backbone.

"*Pannel*" should be so stuffed as to have an equal pressure on the sides of the horse's back, taking care not to pinch the sides of the wither, or touch the horse's backbone, leaving room enough to admit of two fingers being introduced, both in front and rear.

"*Numnah.*"—To be fastened on saddle, or pad, with its straps tightly buckled round the flaps of pannels, care to be taken that the numnah does not rest on the horse's withers, but is well raised into the fork of the saddle over the withers by putting the arm, or a rolled horse rubber under it, which latter is withdrawn after the horse is girthed up.

"*Shoe Pockets.*"—Strap to be passed round cantle of saddle, or through ring of pad, point of buckle down, then passed through holes in shoe pocket, which is to be buckled on, with nail pocket outside.

"*Wallets*" to be placed on pommel of saddle or pad, with hollow side of connecting piece to the front; the wallet strap to be passed to the rear through front keeper on the wallet till edge of buckle touches the keeper, the point of the strap then to be passed through rear staple, next through rear keeper on back of wallet, then through front staple, and finally through front keeper on back of wallet, and buckled point to rear.

"*Crupper*" should admit the breadth of the hand between it and the horse's back, care being taken that none of the hair remains between it and the dock.

"*Girth,*" when buckled, to admit of a finger between it and the horse.

"*Surcingle*" to lie flat over and not tighter than the girth.

"*Head-collar*" to be so fitted that there should be room for two fingers between the horse's nose and the nose-band, which should be the same distance below the cheek bone.
"*Throat-lash*" to admit the breadth of three fingers between it and the horse's jaw.

"*Headrope.*"—Non-commissioned officers and gunners: round neck of horse, the roll of extra rope to have four turns, and to be six inches from lower ring of jowl piece. Drivers: seven turns of rope, to commence six inches from lower ring of jowl piece, passing through outer ring of hames (over side rein and under bearing rein of off horse), through wither buckle from the top, lying over outer bar and tongue; is knotted inside at proper length, wither strap buckled over it.

"*Head-stall*" of all bridles to be of such a length that the mouth-piece of the bit may be one inch above the tushes of geldings, and two inches above the corner teeth of mares.

"*Leading-rein.*"—The short piece on near side, should be carefully fitted, so that the bearing of the bit in the horse's mouth be even.

"*Bearing-rein,*" buckled to cheek of bit, and should not be tight.

"*Side-rein,*" buckled to cheek of bit, below bearing rein.

"*Curb-chain*" to be flat and smooth under the jaw, sufficiently loose to admit of one finger when the cheeks of the bit are in a line with the head-stall.

"*Bridle-rein*" to be of such length as to allow the upper part of the driver's left arm to hang straight from the shoulder, the lower part to be at right angles with the upper, and the rein full in hand when at attention on horseback.

"*Collar*" should be so fitted as to admit of the flat of the hand passing freely between it and the lower part of the horse's neck, and just room for the fingers to pass between it and the sides of the horse's neck.

"*Hames*" should be bent at the bottom, so as to fit the lower part of the collar, and from about three inches below the draft-hooks, straight to nearly the top, where they should turn a little out. The breast-chain should be so hooked that the hame-strap, when buckled, will keep the draft-hook at a proper height.

"*Wither-strap*" should not be tight, or otherwise it would pull the saddle forward, and tighten the crupper.

"*Belly-band,*" buckled so that it will hang the breadth of a hand below the horse's belly when in draft.

"*Bearing*" and "*Hip-straps*" should be fitted so as to keep the traces on the same line.

"*Breeching*" to be ten to twelve inches below the upper part of the dock; and when the horses are hooked in, should have four inches play from the collar to the breeching.

"*Back-band*" to be of such a length that the points of the shafts are above the line of draft.

"*Traces.*"—Their length must in a great measure depend on the size of the horses and the nature of the ground; the distance should not be less than one yard from nose to croup.

INSTRUCTIONS FOR PUTTING UP HARNESS AND HORSE APPOINTMENTS IN THE HARNESS-ROOMS.

Harness.

"*Nosebags.*"—One on each peg, hung as far back as possible.

"*Heel Ropes*" and "*Picket Pegs.*"—Rolled ready for marching order and hung with nosebag of off set on peg as far back as possible.

"*Collar.*"—Hung on peg, with hames buckled, point down.

"*Traces.*"—D on the hames-hook, the links to hang loose, other end hooked to hames-link.

"*Saddle or Pad.*"—Hung by crupper, surcingle buckled as when on the horse, ends of the hip straps passed through the hame-hooks.

"*Belly-band.*"—Buckled round traces and crupper; the traces hanging double, straight down inside the saddle or pad.

"*T-bits.*"—Rolled, as for marching order, and hung on the bearing-rein hook.

"*Bridle and Head Collar.*"—As if on the horse's head, reins loose hanging over the front part of the saddle or pad, curb over bit.

"*Head Rope.*"—On head collar ring, ready for parade, end hanging down.

"*Breeching.*"—Over the collar.

"*Girth.*"—On saddle or pad, buckled as on horse.

"*Numnah.*"—Folded double, laid on the top of all.

"*Legging.*"—Hung to near hame-hook of riding set by top strap buckled; other straps unbuckled ready to be put on.

"*Whip.*"—Hung by hand loop to off hame-hook of hand set.

Non-commissioned Officers' and Gunners' Appointments.

"*Nosebag,*" "*Heel Rope,*" and "*Picket Peg.*"—Fastened together by a "tie," and hung on the peg, as far back as possible.

"*Traces.*"—The centre of breast-piece is placed on the saddle peg close up to the post or wall, trace to be laid at full length, two hooks at each end, then fold in three equal parts. One buckling piece to be round each end of trace when folded. The loin strap to be passed round the traces and buckled to loin strap buckles.

The loin strap to remain round the traces when hung up; the curled hooks to be hooked into D's of breast harness, under the saddle.

"*Bridle*" *and* "*Head Collar.*"—Hung up complete, with head rope, as when on the horse's head, the bridoon in front of bit, twisted bit head piece over all, curb hooked over front of bits.

"*Saddle.*"—Is next put on the peg, surcingle and girth to be buckled as on the horse, crupper hanging down with end inside noseband; the stirrups to hang at riding length inside noseband of head collar.

"*Numnah.*"—Folded double, laid on top of all.

Disposal of Harness in Camp.

Harness and saddlery to be laid down one yard in rear of line of heel pegs.

Traces.—To be laid on the ground doubled (lead traces twice doubled), with the whole of the links to the same side.

"*Legging.*"—Passed round links of traces, with centre strap buckled.

"*Collars,*" with hames complete, crossways on traces, lining of collars downward, points of collars reversed.

"*Breechings*" doubled inside collars.

"*Pad*" complete on collars, with crupper thrown over top of pad.

"*Saddle*" complete, on top of pad, with crupper thrown over top of saddle, stirrup irons run up leathers clear of ground.

"*Bridles*" Hung over pommel of saddle, bits clear of ground.

"*Whip,*" hung on pommel of saddle, thong passed over head-piece of bridle.

"*T-bits,*" across seat of saddle ready for use.

"*Numnahs*" reversed one over the other, inside face downward on top of the whole.

"*Nosebags*" on top of numnahs, ready for use.

Non-commissioned Officers' and Gunners' Appointments.

"*Saddle*" complete on ground resting on pommel, stirrup irons and crupper looped on cantle.

"*Breast Harness.*"—Breast-piece across horns of saddle.

"*Bridle.*"—Head-piece of bit hung on cantle over saddle seat, bridoon over bit.

"*Numnah*" covering seat of saddle, inside face next seat.

"*Nosebag*" on top of numnah ready for use.

HARNESSING.

First Method.

When the whole of the harness is not buckled together—

Buckle the girths to the tabs of the saddle on the off side. The buckle end of the surcingle passed through the keeper on the off side of the girth; a knot is tied on the girth and surcingle to keep them clear of the ground.

The lead driver commences with the off horse. The horse having been put on the short rack, at the word "*Harness*," clear the saddle, which has already had the numnah fitted to it, from the other parts of the harness, support it on the left arm, and with the cantle towards the elbow, place the crupper over the seat of the saddle, holding the end in the right hand which also assists to support the pommel of the saddle, place the saddle on the horse's back from the off side, cast off the knot of girth and surcingle, and place the crupper on the horse's loins; move to the near quarter of the horse, gather the hair of the tail in the right hand, and put on the crupper with the left, clear the dock hair from the crupper, move forward on the near side, lift the saddle clear of the horse's back, move it forward towards the withers, and replace it on the centre of the horse's back, buckle the girth and surcingle, taking care that the surcingle be not tighter than the girth. Unbuckle the top strap of the collar, place the collar on the horse's neck, peak down, and buckle the top strap. Fit the hames and reeve the strap, so that when buckled the spare end shall fall to the inward side of the horse; turn the collar at the smaller part of the neck with the mane. Buckle the wither strap. Take the draught links of the off trace in the right hand, the trace-hook in the left, rest the bight of the trace on the left arm below the elbow. Hook the third link from the end to the shoulder hook and put in the tie. Buckle the bearing and hip-straps, pass the trace hook up inside of the hip-strap, and outside of bearing strap, and hook it to the draught-link at the shoulder; put on the near trace in the same way, buckle the belly-band.

Turn the horse left about, and put on the bridle.

Place the centre of the riding horse's rein over the neck, the centre buckle towards the off side; buckle the billets to the bit.

The bearing (or off horse's) rein is placed over the neck, the centre buckle to the near side; the billets of the bearing rein are passed through, and buckled to those loops of the

bit in line with the mouth-piece; the throat-lash of an off horse is buckled outside the bearing-rein.

The curbs are then put on.

The billet of the side-rein is passed through and buckled to the same loop as the off end of and under bearing rein. The leading rein is buckled to the centre or lower loops of bit, as may best suit the horse's mouth, short piece on near side.

Wheel driver commencing at the off horse in the same manner as the lead driver, only that the hip-straps are not buckled to the traces. The breeching is to be put on before the traces, commencing at the off side. In putting on the traces, pass the bearing strap through the double of the shaft strap, to keep the latter in its place; pass the end of the near side of near wheeler's breeching inside the surcingle, and hook it into the ring of the hames at the near shoulder, and secure the hook with a leather thong.

Second Method.

When the whole of the harness is buckled and fastened together.

At the word "*Harness,*" turn the horse to the left about, pass the left arm through the crupper, take hold of the collar with both hands (one on each side), put on the collar, turn it round on the off side, and the horse at the same time to the left about, place the saddle on the horse's back, straighten the girth and surcingle, put on the crupper, buckle the girth, surcingle, and belly-band, put on the bridle, hook on the curb, and buckle the throat-lash, (if an off-horse,) outside the bearing-rein and buckle the side rein.

SECTION 2.—ELEMENTARY INSTRUCTIONS FOR DRIVERS.

FILING IN AND OUT OF STABLES.

In filing into or turning out of stables the driver takes hold of the riding horse's bridle, close to the bit, with the left hand, whip in his legging, stock upwards. He takes hold of the leading-rein with the right hand, and throws the off horse to the rear of the riding one, keeping hold of both horses until formed on parade, or put back again into the stable.

MOUNTING WITH HARNESS BRIDLES.

At the word "*Prepare to Mount,*"—

First Motion.—Turn to the right, and place the right foot about six inches to the right; with the right hand place

the middle of the riding-rein and the leading rein over the palm of the left hand.

Second Motion.—Take a lock of the mane in the right hand, in front of the collar, pass it up under the left thumb, and twice round it; then take hold of the stirrup leather, close to the iron, with the right hand; place the left foot in the stirrup, the right hand on the cantle, and the left knee against the saddle on the surcingle.

At the word "*Mount,*"—

First Motion.—Spring up, and stand erect in the stirrup.

Second Motion.—Carry the right leg quickly but steadily over the saddle, shifting the right hand from cantle to pommel.

Third Motion.—The left hand quits the mane, the bridle and leading-rein are both retained in the full of the hand, and are tightly held between forefinger and thumb, the hand being raised as high as the elbow, the back of the hand inclined upwards, the right hand takes the whip out of the legging, and holding stock and thong, rests on right thigh, back of the hand up, both elbows close to the side; the right foot placed in the stirrup-iron, without the aid of hand or eyes.

SIT AT EASE.

On the command, "*Sit at ease,*" the left hand is dropped on the front part of the saddle, the right hand, holding stock and thong of whip, remains resting on right thigh, back of the hand up. If the command "*Sit at ease*" is followed by "*Sit easy,*" the drivers will be permitted to move their limbs, but must not lose their dressing. On the word "*Eyes Front*" being given to men sitting easy, every driver will at once assume the position of "*Sit at ease.*"

DISMOUNTING WITH HARNESS BRIDLES.

At the word "*Prepare to Dismount,*"—

First Motion.—Place the whip in the legging; the right foot quits the stirrup.

Second Motion.—With the right hand take a lock of the mane, in front of the collar, bring it through the left hand, and twist it twice round the thumb; then place the right hand on the pommel, fingers to the right and thumb to the left.

At the word "*Dismount,*"—

First Motion.—Supporting the body with the right hand and left foot, the right leg is brought gently (without touch-

ing the hind quarters or the saddle) to the near side, the right hand shifted to the cantle, body erect.

Second Motion.—The body is gently lowered until the right toe touches the ground.

Third Motion.—Resting on the right foot, the left stirrup is quitted, and the left foot placed in line with the horse's fore feet.

Fourth Motion.—Both hands quit their hold, the driver turns to the left, and brings the body square to the front; as he is turning, the right hand lays hold of the leading rein and the cheek of the riding horse's bridle, holding up the horse's head as high as the shoulder.

STAND AT EASE.

The right arm (the right hand retaining the leading rein) is passed through the bridle rein, both hands brought together in front of the body, right foot drawn back six inches, and left knee bent.

"*Stand easy.*"—Drivers fasten their leading reins to their bridle reins, pass round to the off side of their horses, and cast off the bearing reins. Wheel drivers lower the props.

On the word "*Eyes front*" being given to drivers "standing easy," bearing reins will be hooked on, and props fastened up; leading reins unfastened from bridle reins, and the position of stand at ease resumed.

SALUTING WHEN MOUNTED.

A mounted N. C. officer, gunner, or driver riding singly, salutes by riding at attention, the right hand extended behind the thigh, looking the officer in the face; with mounted parties, the N. C. officer in charge should give the word, "*Eyes right,*" or "*left.*" Drivers with a pair of horses, whether hooked in or not, salute by passing their whips between collar and pad of off horses, looking the officer in the face, body erect, left elbow close, right arm extended to the right front, with the hand as low as the waist, back of the hand up, and inclined to the front, fingers closed on stock and thong. In trotting drivers do not salute, the right hand, holding stock and thong, rests on right thigh, back of the hand up. Drivers when halted do not salute.

HOOKING IN.

May be done by the gun detachments and the drivers, or by either.

First Method.

By the Detachments and Drivers.

"*To hook in — prepare to dismount.*" "*Dismount*"—"*Hook in.*"

No. 1 stands at the shaft horse's head; 2 and 3 assist lead driver, 2 on near side, 3 on off; 7 and 6 assist centre driver, 7 on near side, 6 on off (for field batteries, 6 on near side, 7 on off); 4 and 5 assist wheel driver, 4 on near side, 5 on off.

4 hooks near trace of riding wheeler, and then goes to his head; 5 raises off shaft and guides the point of it through the tug; the wheel driver acts in like manner with the near shaft, and gives the word "*Ready*" as a signal for No. 1 to back the shaft horse into his place, 5 will then hook the off trace and buckle the breeching; the wheel driver hooks traces, and buckles both breechings inside, he then stands to his horses.

2 hooks near trace of riding leader and goes to his head; 3 hooks off trace of off leader and goes to his head; the lead driver hooks both inside traces, and stands to his horses.

7 and 6 and centre driver act in same manner with centre horses.

As soon as the drivers stand to their horses the gun numbers will fall in.

In unhooking, the words will be, "*To unhook,*" "*Prepare to dismount,*" "*Dismount,*" "*Unhook,*"—when each number and driver undoes what he had done in hooking in, commencing where he left off; as soon as the leaders are unhooked they must be moved forward to enable the shaft horse to be led clear of the shafts.

The traces should always be hooked before breechings are buckled, and in unhooking the breechings must be first undone.

The backs of the trace hooks are always to be down, and the points of the ties are to be inwards on the trace, but outwards on the shoulder hooks.

Second Method.

By the Gun Detachments.

The drivers being mounted, at the word "*Hook in,*" Nos. 2, 3, 4, and 5 go to the gun, 6, 7, 8, and 9 to the wagon horses. No. 3 takes hold of the shaft horse, close to the bit, with the left hand, right hand on the tug; No. 5 standing on the off side, raises the shaft, and gives the word "*Ready*"; 3 then backs the horse, each number guiding the tugs upon the shafts, they then hook the traces and buckle the breech-

ing; 3 then hooks in the off trace of the near wheeler, then buckles the breeching over the trace, and passing out by the rear, hooks in the near trace; 2 hooks in the centre horses, commencing with the off trace, turning inside, and hooking each trace in succession; 4 hooks in the lead horses in the same manner; with only four horses, 2 can assist to hook in the near wheeler.

Nos. 6, 7, 8, and 9 hook in the wagon horses, exactly in the same manner that 2, 3, 4, and 5 hook in those of the gun.

Third Method.

By the Drivers.

The drivers being dismounted, at the word "*Hook in,*" take off their gloves and place them in the off wallet of riding horse, turn to the right and tie their leading to the riding reins by two half hitches; the lead driver doubles round by the front to the off shaft; the centre driver to the off side of his off horse; the wheel driver stands in between his horses' heads, taking hold of the bearing rein with the left hand, close to the bit, the right hand on the tug. The lead driver raises the shaft, and gives the word "*Ready*"; the wheel driver then backs the shaft horse, both drivers guiding the tugs upon the shafts; then hook the traces, and buckle the breeching; the wheel driver then hooks in the near wheeler, and the lead and centre drivers hook in their own horses as previously detailed for the detachment; the lead driver stands in front, takes hold of the bit of each horse, stretches the traces, and places the horses square with the carriage, the whole of the drivers putting them well on their legs, and stand to their horses as before.

FOUR HORSES ABREAST.

When teams of 12 horses four abreast are used with double shafts, the drivers of the off pairs ride on the off horses, and wear the leggings on their left legs, the near breeching strap with hook is fastened on off side of breeching of off riding wheel horse, near side of breeching fastened to D's on off shaft with a strong strap with keeper (this strap should be about 2 feet long and 2 inches wide), the side reins of the horses driven from the off side are fastened on the near side of their pads; all the inside horses are coupled together by a side rein fastened to the head collars to prevent them from flying outwards.

MOVING OFF FROM A HALT.

At the word "*March,*" the drivers ease the reins, and close their legs to the riding horses, laying the stock of the whip thong in hand over the necks of the off horses, which will ensure their starting together; this is of great importance, not only to prevent the breaking of the harness, but also the jibbing of the horses.

The spurs are for the riding horse, the whip for the off horse; in using the whip it should be applied over the shoulder or neck.

Wheel and centre drivers must be careful that the horses in front of them are kept in proper draught, the lead driver being responsible for dressing.

To prevent loss of distance, on the command "*March*" every man should start his horses. Drivers should be specially cautioned not to wait until the carriage in front of them moves off.

DISTANCES ON THE MARCH.

The distance of four yards between the carriages is always to be maintained on a good road, but in bad or hilly roads this distance should be increased to avoid any check to the rear carriages; should such occur, the drivers must be always ready to throw their horses' heads to the right or left out of covering. Closing up to recover distance must be done steadily, and by divisions, not by carriages coming up independently.

REVERSING IN NARROW ROADS.

All the carriages must be drawn close to one side of the road, the guns and wagons unlimbered and reversed. The limbers are brought to the front of their carriages, which are then to be limbered up. If there is not room to reverse the limbers, the horses must be taken out.

Should the road be so narrow that the limbers cannot pass their carriages, the trails of the guns and perches of wagons must be brought into a direction perpendicular to the road. If it has a bank on either side, the wheels must be run close to the bank, and the trail or perch made to rest upon it. On a dyke or road with a ditch on each side, the gun carriages and wagon bodies must be run as close to the edge as possible, the trails and perches held up while the limbers pass. Great care must be taken not to run the carriages too far, and the wheels must be scotched or locked, at the edge of the dyke or ditch.

GOING UP AND DOWN HILL.

In going up hill, carriages may be halted to rest the horses by bringing them across the road and locking the limber; and it is advisable to start them from the bottom in succession, by divisions or subdivisions, with an interval of twenty or thirty yards between each. The bearing reins should be invariably cast off. The ascent if very steep, may be rendered easier by moving in a zig-zag direction. The detachments can also assist with drag-ropes.

After going up a short steep hill, the horses should be halted, but when that cannot be done, they should be made to move slowly, to allow them to recover their wind.

In driving down hill, the lead and centre drivers hold their horses to allow the wheel driver the management of the carriage, but the traces must be kept up; the wheel driver with his right hand in the reins, and both hands low, keeps a steady pressure on both breechings, supporting his horses well on their legs, taking care not to throw them on their haunches by feeling too strongly on the bit. In going down a steep hill, the detachment must hold on; for this purpose, the drag-ropes are hooked to the drag washer.

Holding on with a drag-rope is in most cases quite sufficient with a field battery, but the drag-shoe may also be used if necessary. In very steep and difficult descents, the leaders should be taken out.

TO PUT ON THE DRAG SHOE.

On a gun wheel, Nos. 2 and 4 or 3 and 5 unhook the shoe, and throw it as much as possible under the wheel; and 2 or 3 buckles the strap round a felloe, when necessary.

On a wagon wheel in a similar manner by Nos. 8 and 9.

If the road is wide, it saves time by forming two or more carriages in line on the summit of the hill before putting on the shoe, the rear carriages moving up in succession to the same spot, but care must be taken not to block up the road.

To free the wheel, the strap is unbuckled, Nos. 4, 5, or 9 with a hammer knock down the top keepers, the chain runs out, and the wheel passes over the shoe. This operation must take place just before arriving at the bottom of the descent. The shoe is picked up by No. 2, 3, or 9, and hung on the hook on the breast of the carriage, or rear of the wagon.

The chain should be kept adjusted to the length required when in use.

The shoe should be put on the wheel furthest from a precipice.

On rough or rocky ground, when there is a chance of the wheel jumping out of the shoe, the drag should be fastened as follows:—The drag shoe is laid on the ground without the chain being attached; the wheel is then run on the shoe, and the chain passed up through the ring of the drag shoe inside the felloe of the wheel, and in rear of a spoke, and fastened on the outside to the ring of the shoe, which can then be disengaged without the gunner going inside the wheel, and without halting at the foot of the hill, which should on no account be done, as it stops the rest of the carriages in the descent.

HALTING OR PULLING UP.

This must be done with judgment and caution; when the pace is the walk, the carriage may be stopped at the word "*Halt,*" by the lead and centre drivers feeling the bits firmly but steadily, and closing their legs for an instant to keep the horses up to the collar. They also raise the whip hand as high as the head, the whip horizontally across the front, as a signal to the wheel driver; the wheel driver pulls up his riding horse, as directed for the lead driver, and with his whip hand takes hold of the leading rein, and inside of riding rein, both hands low, and by a steady firm feeling of both horses' bits, he sets them to the breeching; the moment he stops the carriage, he must ease the reins, and put his horses to the collar, taking care that the leading traces are stretched. In pulling up from the trot, the same aids must be applied, but the carriage must not be stopped too short.

ALTERATION OF PACE.

In all alterations from slow to quicker paces, the drivers use their legs and whips as directed in moving from the halt; jerking the horses should be carefully avoided.

TAKING GROUND.

"*Taking ground,*" each carriage wheels, independently of the others, in a direction at right angles to the leading horses' heads.

"*Taking ground to the right,*" the lead driver works his horses round, by feeling the inward rein of the riding horse, pressing with his left leg, and taking the leading rein in the right hand, to bear the off horse off. The centre and wheel drivers aid their horses round in the same manner, taking care to follow the lead. The wheel driver must keep the shaft horse from lying in the breeching.

"*Taking ground to the left,*"—the lead and centre drivers work their horses round by feeling the left rein and pressing strongest with the right leg, keeping the whip stock, thong in hand, over the off horse's neck, until the turn is completed; the wheel driver works round in the same manner, keeping his riding horse from lying back in the breeching.

REVERSING.

"*Reversing,*" each carriage wheels about independently of the others.

"*Reversing to the right,*" the lead drivers circle their horses round, by feeling the right rein, and pressing with the left leg, taking hold of the leading rein with the right hand, and bearing off the off horse, keeping their eyes on the carriage until the wheel is completed. The wheel driver goes about in the same manner, and must be very careful that the shaft horse is kept up from lying in the breeching, otherwise the carriage is liable to be locked and upset.

"*Reversing to the left,*" drivers keep the whip stocks thongs in hand over the off horses, circling round to the left, feeling with the left rein, and pressing with the right leg, watching the carriage, the wheel driver taking care to keep his riding horse from lying back in his breeching.

In all formations the drivers must go well to the rear of the position on which the carriage is to stand, so as to be able to bring it up square.

INCLINING AND WHEELING.

"*Inclining,*" the gun and its wagon each turn in the direction ordered. Inclining is a movement by which a line, or any part of it, is carried on in a parallel direction at the same time that it is gaining ground to a flank.

"*Wheeling,*" the wagon follows the gun, and is governed by it in the movement, except when on a flank, it then wheels with it; if the wagon leads, the gun follows.

ACTION.

"*Action Front.*" — At the word "*Drive on,*" the gun drivers drive on one yard to clear the trail; the limbers and wagons reverse to the right, the former at the trot till in line with the guns, then move direct to the rear at the walk, "eyes left," and at the word of command or signal they again

reverse to the right, "eyes right," and form in rear of the guns, the gun leaders ten yards in rear of the trail eye, the wagon leaders four yards from the limber.

"*Action Rear.*"—At the word "*Drive on,*" the limbers and wagons move on, incline to the left, reverse to the right, and form up as before.

"*Action Right.*"—At the word "*Drive on,*" the gun drivers move forward one yard; the limbers and wagons then take ground to the left, and move to the rear, reverse to the left, and form up as before.

"*Action Left.*"—The same as Action Right, except that the limbers and wagons take ground to the right, and reverse to the right.

(For Horse Artillery, see pages 289 and 305.)

LIMBERING UP.

"*To the Front.*"—The gun drivers trot up, inclining to the right, keeping one yard clear in passing the gun; when clear of the gun-wheel they throw right shoulders forward, until the wheel of the limber is close to the trail-eye, when the drivers pull up and square the limber, the lead drivers easing their traces, and passing their horses to the right until square, when they again stretch the traces; the wheel driver keeps his riding horse to the collar, taking care that the limber does not run back upon the gun. The wagon drivers trot up, halting four yards in rear of the gun.

"*To the Rear.*"—The gun and wagon drivers trot up, inclining to the right, and when the limbers are close to the gun the whole reverse to the left, the limber drivers holding in their horses until the wagons have reversed; they then complete the wheel, the lead drivers easing their traces, pass their horses to the left to enable the wheel driver to wheel short round; the wheel driver, by holding in his riding, and keeping up his shaft horse, turns the limber, and keeps it from running back on the gun.

"*To the Right.*"—The gun drivers trot up; the lead driver passing close to the trail turns to the right, when the wheel driver is in line with it; the lead and centre drivers then ease their traces, and pass their horses off to the right until square in front of the wheelers, when they again stretch their traces; the wheel driver, as soon as he is in line with the trail, turns to the right, and the limber is halted. The wagon drivers trot up, inclining to the left; at the proper

interval from the guns, they take ground to the right, halting and dressing on their guns.

"*To the Left.*"—The same as limbering up to the right, except that the gun drivers turn off to the left, and the wagon drivers move up, inclining to the right.

In all limbering up the drivers look over their shoulders, to see if the limber is properly placed, and correct it if not; in doing so they must not rein back.

The guns are invariably limbered up at the trot.

TO DRIVE CURRICLE.

The drivers dismount; the lead drivers remain at their horses' heads: the wheel horses are disengaged by No. 7 and the wheel driver; 5 and 6 take off the off shaft, and put on a spare washer, 7 bears up the near shaft, 5 prepares the sling, and 6 the spare handspike, the shaft is suspended between the wheel horses by the sling, the handspike is put through the sling, and laid across the saddle and pad of the wheel horses.

DISENGAGING A SHAFT HORSE WHEN HE FALLS, OR IS DISABLED IN ACTION.

Nos. 1, 2, 3, 4 continue serving the gun, 5, 6, and 7 and one of the drivers disengage the horse, the other horses are taken out; if there are three of them, one man can hold them, but when there are five, there must be two men.

The breeching on the upper side of the horse is unbuckled from the ring of the shaft, the pad girth, the belly bands, the hames, wither, loin, and crupper straps are unbuckled and cast loose, the harness will then be completely disengaged from the horse.

If any of the straps be too tight, or cannot be got at to unbuckle, they must be cut.

The limber must be drawn back as soon as the harness is cast loose, and the driver should immediately confine the horse's head to the ground, which prevents him from injuring himself or those who are employed to disengage him.

If a wheel trace be destroyed, a leading one may supply its place, by passing it once or twice round the splinter bar and hooking it to the trace loop, its length is adjusted to correspond with the other by means of the trace links.

SECTION 3.—INTERVALS AND DISTANCES.

"*Intervals*" and "*distances*" are measured from Nos. 1 to Nos. 1, when limbered up, and from muzzle to muzzle when in action.

INTERVALS.

IN LINE.	*Between files*—Six inches.	
„	*Open files*—One yard.	
„	Close interval. *Between Subdivisions*	3 yards between Nos. 1.
„	Half interval. *Between Subdivisions.*	9½ yards, with 6 horses. 11½ „ 8 „
„	Full interval. *Ditto* -	19 „ 6 „ 23 „ 8 „
„	„ *Between Batteries and Brigades.*	A Subdivision interval and a half, viz., 28½ yards, with 6 horses. 34½ „ 8 „
„	Of Column. *Ditto* -	Ditto.

Frontage.

The extent of Front of a Battery of Field Artillery is five subdivision intervals plus the front of one subdivision, which in Field Batteries is three yards, and in Horse Artillery with detachments of eight men seven yards, an additional yard to be added for each extra file above this number.

With six horses, the extent of Front of a Battery of Field Artillery is 98 yards; of a Battery of Horse Artillery is 102 yards.

For every additional pair of horses in the gun teams 20 yards must be added to the frontage of each battery.

To find the frontage of a Brigade of Batteries, the number of yards is ascertained, by multiplying the frontage of a battery less that of a subdivision by the number in line, and adding a battery interval multiplied by one less than that number, and add the frontage of a subdivision; thus for four batteries—

Field Batteries, $4\ (98-3)+28\frac{1}{2}\ (4-1)+3=458\frac{1}{2}$ yards.

Horse Artillery, $4\ (102-7)+28\frac{1}{2}\ (4-1)+3=472\frac{1}{2}$ yards.

DISTANCES.

Column of Subdivisions -	-	19 yards with 6 horses. 23 „ 8 „
„ Division -	-	38 „ 6 „ 42 „ 8 „

Column of Half Batteries -	57	yards with	6	horses.
	65	„	8	„
„ Batteries and Brigade	123½	„	6	„
	143½	„	8	„

In column, half an interval extra must be preserved between batteries.

Half Column of Batteries,	61¾	yards with	6	horses.
„	71¾	„	8	„
Half Column of Half Batteries,	28½	„	6	„
„	32½	„	8	„
Quarter Column of Batteries, Half Batteries, Divisions, is the same, viz.	38	„	6	„
	46	„	8	„

With wagons and spare carriages 4 yards must be preserved between the rear of each carriage and lead horses of that immediately behind it.

Column en masse -	38	yards with	6	horses.
	46	„	8	„

"Column of Route" generally includes wagons and spare carriages; the distance to be preserved in this case is 4 yards between the rear of one carriage and the lead horses of that immediately behind it.

DEPTHS.

The depth of a Column of Route of a Battery of Field Artillery without wagons is six subdivision intervals plus four yards, and in Horse Artillery, in addition to the above, the column is deepened four yards for every two horses in the detachment; for every additional carriage with six horses 19 yards must be added.

With six horses the depth of a Column of Route is for—

A Battery of Field Artillery - - 118 yards.
A Battery of Horse Artillery with mounted detachments of eight men - - 166 yards.

In Column of Route of a Brigade of Batteries a distance of half a subdivision interval must be allowed between each battery, and calculated for accordingly.

To find the depth of a column, multiply the number of carriages the column is deep by 19, and add 4, thus:—

4 Batteries Quarter Column } × 38 = 152 + 4 = 156 yards.

PART V.

PARADE.

Section 1.

Turning out.

Boot and saddle is sounded half an hour before the *Turn out.* The men must never turn out until the trumpet sounds for that purpose.

No man before turning out is to feed or clean his horse in his boots and spurs, a sufficient time will be allowed before he need begin to accoutre himself.

On the *Regimental call* being sounded the men of each subdivision will fall in on foot in front of their own stables, where they will be inspected by their Nos. 1, and the reports made to the serjeant-major. The mounted men of each subdivision will then be marched into stables ready to turn out when ordered, and the dismounted men marched to the Gun Park under the quartermaster-serjeant.

At the *Turn out* the subdivisions are formed up mounted in front of their stables, inspected by the Nos. 1, marched to the Gun Park by the subaltern officer on duty and hooked in. No. 1 puts on the fuze pocket, and No. 5 the tube pocket.

The officers will then inspect their divisions in the following manner. "*Draw swords*" (Horse Artillery, open ranks); inspect every man, horse, and carriage, observing that each man has the whole of his appointments, that they are properly put on, and that the carriages are properly equipped, (then close the ranks,) "*Return swords,*" and "*Sit easy,*" and report to the captain.

The captain, or in his absence the subaltern on duty, will then call the battery to "*Attention*" and tell it off.

Telling off and Proving.

A Battery.

The battery, limbered up, is told off by subdivisions, divisions, and half-batteries, as follows:—

"*Number your subdivisions from the right.*" The Nos. 1 number the subdivisions. The battery is then told off.

1 *and* 2 *Right Division.* 3 *and* 4 *Centre.* 5 *and* 6 *Left.*

1, 2, *and* 3 *Right half-battery.* 4, 5, *and* 6 *Left.*

1, 3, *and* 5 *Right subdivisions of Divisions.* 2, 4, *and* 6 *Left.* 3 *and* 4 *two centre subdivisions. No.* 3 *is the subdivision of direction* (unless otherwise ordered).

Horse Artillery detachments must be told off by half sections and also fours from the right of ranks, and proved.

The battery is then proved by naming a subdivision, division, half-battery, or any individual number of the gun detachment. At the word "*Prove,*" every man of the named subdivision raises the right arm as high as the shoulder, and extends it to the front, keeping it up until another part is ordered to prove. When the whole have proved, the word "*As you were*" is given, and the right arms are dropped. The word "*Sit easy*" is then given, and the report made to the commanding officer.

Should the original order of a battery in the field be changed either in line or column, it is renumbered, in line from right to left, in column from front to rear.

Spare Carriages, when with the battery, form a third, and if necessary a fourth line in rear, carriages covering their own subdivisions.

Officers must pay particular attention that all motions required of the soldier are done with the same smartness as on the general parade.

A Brigade.

The brigade having assembled in quarter column, the adjutant proceeds to tell it off by numbering the batteries from front to rear. He then names them No. 1 or Right Battery, No. 2 or Right Centre, No. 3 or Left Centre, No. 4 or Left Battery; the battery of direction and the two centre half batteries. The centre battery with an odd, and the right centre with an even number of batteries is the battery of direction in line, unless otherwise ordered. The brigade is then "proved" by naming any part of it previously numbered, in the same manner as laid down for a single battery.

When batteries in brigade lose their order the majors will renumber them.

SECTION 2.—POSTS OF OFFICERS AND MOUNTED NON-COMMISSIONED OFFICERS, &c.

Commanding Officer.

In line.—Two horses' lengths in front of the centre of the lieutenant colonels.

Lieut. Colonel.

In line, limbered up.—Two horses' lengths in front of the centre of the line of commanding officers of batteries.

In column.—On pivot flank where he can best be heard.

Major.

In line, limbered up.—Three horses' lengths in front of the centre of the battery.

In column of batteries.—One horse's length in front, and three on pivot flank.

In column of subdivisions, divisions, or half-batteries.—Three horses' lengths on pivot flank of centre of battery.

The positions assigned to the major are those to be taken up when the formation is completed, while it is in progress his post is, wherever he can best superintend and be heard by his battery.

Captain.

In line, limbered up.—In the centre, two horses' lengths in rear of the line of staff serjeants.

In column of batteries.—As in line.

In quarter column of batteries.—One horse's length on outer flank in line with the leaders.

In column of subdivisions, divisions, or half-batteries.—Three horses' lengths from the centre on the outer flank.

In column of route.—In rear of carriages.

In action.—He dresses the guns, assists the major in general superintendence.

He dresses all points of formation, gives the word "*Steady*" when they have been correctly taken up and the formation complete.

Subalterns.

In line, limbered up.—In the centre, between their subdivisions in line with the leaders of the guns. When guns have to go to the rear of the alignment in order to obtain ground to form, the subalterns halt on the alignment.

In column of subdivisions or route.—One horse's length on the pivot flanks of the centre of their divisions.

In column of divisions.—In the centre, between their subdivisions in line with the leaders of the guns.

In column of half-batteries.—The subaltern of the centre division, in the centre of the vacant interval of the leading half-battery, in line with the leaders. The others continue as when in line.

In close intervals.—A horse's length in front of centre of their divisions.

In action.—Superintending the guns of their divisions.

Adjutant.

In line, limbered up.—In centre of the brigade, in line with the leaders of the guns, or front rank of detachments.

When there is an uneven number of batteries, one horse's length from and on the off side of the officer of the center division of centre battery.

In advancing, in line with the majors of batteries. When there is an uneven number of batteries, 20 yards on the right of the major of centre battery.

In column.—Three horses' lengths on outer flank of leading battery, in line with gun leaders.

In double column.—Three horses' lengths on outer flank of head of the column.

In echellon.—Three horses' lengths on the outward flank of leading battery.

Brigade Serjeant-Major.

In line, limbered up.—In rear of the adjutant, in line with the gun axles.

In column, double column, and echellon.—Covering the adjutant, in line with the gun axles.

In advancing in line.—Covering the adjutant, in line with the leaders of the guns.

Brigade Quartermaster-Serjeant.

In line, limbered up.—One horse's length from and in line with the gun axles on the left flank.

In column.—One horse's length in rear of and covering the quartermaster-serjeant of the rear battery.

Battery Staff Serjeants.

In line, limbered up.—The serjeant-major one horse's length in rear of No. 1 subdivision. The quartermaster-serjeant the same in rear of No. 6 subdivision.

In column of batteries.—As in line.

In quarter column of batteries.—On the flanks of Nos. 1 and 6 subdivisions in line with the leaders of the wagons; without wagons, in line with the gun axles.

In column of route.—Serjeant-major on the outer flank of the leading gun, in line with the leaders; the quartermaster-serjeant one horse's length in rear of the rear carriage.

In column of subdivisions.—The serjeant-major between No. 1 gun and wagon, in line with leaders of gun. The quartermaster-serjeant between No. 6 gun and wagon. Without wagons, one horse's length in line with gun axles of 1 and 6 subdivisions.

In column of divisions.—The serjeant-major between the wagons of the right, the quartermaster-serjeant between the wagons of the left division, in line with the leaders.

Without wagons, in the centre of the right and left divisions, in line with the gun axles.

In column of half-batteries.—One horse's length on the outer flank of the wagons of each half-battery, in line with leaders. Without wagons, as in column of divisions.

When the wagons are detached, the quartermaster-serjeant is with the wagons.

Farrier and Artificers.

The farrier, one horse's length in rear of No. 2, and the shoeing smith in rear of No. 5 subdivision.

The other artificers are told off in the gun detachments.

Trumpeters.

In line, limbered up.—One with commanding officer, the other one horse's length in rear of No. 3 subdivision.

In column.—One with the commanding officer, the other one horse's length on the outer flank of centre of the battery.

Nos. 1.

Of Field Batteries are always mounted, except when in action, and during manœuvre remain on the left of the lead drivers of their subdivisions.

Of Horse Artillery, with their detachments.

Coverers.

Of Field Batteries, on left of the leaders of the wagons.

Without wagons, covering the No. 1, and in line with the centre horses of the gun.

Of Horse Artillery, with their detachments.

SECTION 3.—COMMANDS AND SIGNALS.

Commands given by the commanding officer will at once be passed by the commanders of batteries, each being responsible that the command is repeated and distinctly conveyed to the next battery.

All words of command should be given in a firm, loud, and explicit manner by the commanding officer, who should if possible be to windward of his command; they should be instantly repeated by the officers commanding batteries at brigade drill, and officers commanding divisions at battery drill, who then give their executive words of command. The Nos. 1 do not give words of command, except when subdivisions act independently, the executive words are then given by them. The bugle should be rarely used, except to order the pace, or when the battery is in motion, and never when

acting with other troops. If there is a division without an officer, the senior No. 1 of that division commands it, and gives all divisional words of command as well as the words for his own subdivision; he does not fall out, but remains on the left of his gun leaders.

It may sometimes be advantageous to use the following signals, which can be made with sword or arm:—

1. "*March*" or "*Halt*."—Arm extended perpendicularly upwards.
2. "*Right* (*or Left*) *Take Ground*."—Arm extended horizontally in the required direction.
3. "*Right Reverse*."—Arm extended upwards, and waved two or three times in a circle round the head.
4. "*Action*."—Arm raised with hand as high as shoulder, and then extended towards the ground; body well bent down.

SECTION 4.—RULES FOR MARKERS.

GENERAL.

When the adjutant and markers take up points for formation they draw swords; if marking for line, the hilt of the sword is to be held close to the right cheek, edge to the front; if for column the sword is to be at the recover. On receiving the word "*Steady*" from the officer or serjeant-major dressing the points, they return swords. When the formation is complete and the word "*Eyes Front*" given, they fall in.

In taking up points for formation in line, markers face the new alignment, their horses' heads six inches from it.

In advancing in line, the adjutant raises his sword as high as his cheek, edge to the front.

For formations in column, the markers face in the same direction as the column, six inches from the pivot flank.

When points for action are required, the gun axles are to be dressed on the markers.

In forming up on parade with other troops both flanks of the front should be marked.

BATTERY.

The markers for a battery are the serjeant-major and quartermaster-serjeant, who are placed by the captain. They mark for the points nearest to their position in the original formation.

In forming line or deploying from column, the marker of the base formed on places himself facing the No. 1 of the outer subdivision; the captain one horse's length on the

outer flank facing the alignment. The other marker marks a point in the alignment beyond the flank.

In forming column, the marker nearest the pivot flank of the base places himself there, the captain one horse's length in front of and facing him; the other marker will give a point beyond the depth of the column covering the base marker.

In changing front in line on a flank subdivision, if to the right, the serjeant-major marks for the right subdivision, the quartermaster-serjeant gives the other point. They are dressed by the captain, who is one horse's length on the left of the serjeant-major.

In changing front to the left, the converse is the case.

In changing front on a named subdivision, the marker nearest that subdivision marks for it, the other marker giving the other point, the captain one horse's length on the outer flank of the marker of the named subdivision dressing the points.

BRIGADE.

The markers employed in brigade movements are the brigade serjeant-major and serjeant-major of each battery, who are placed and dressed by the adjutant. When the word "Marker" is used in the following movements it refers to the battery serjeant-major.

In forming line from column, the base is given by the brigade serjeant-major and marker of the battery formed on, who place themselves opposite the Nos. 1 of the flank subdivisions of the base (the brigade serjeant-major opposite the left, the marker the right). The adjutant places himself on the outer flank of the base, (unless he can dress a longer front from the pivot flank,) corrects the direction of the base points, and dresses the markers, who mark for the subdivisions nearest the base, and should arrive at their places on the alignment, about 40 yards in advance of their batteries.

In forming column, the marker of the battery on which the formation is to be made places himself on the pivot flank, the other markers take their distances from him. The brigade serjeant-major faces the marker of the base battery, the adjutant places himself behind the brigade serjeant-major and corrects the covering.

In deployments the base is given by the brigade serjeant-major and marker of the battery formed on, who are placed at the head of the column by the adjutant. In other respects markers act as already laid down for formations of "Line from column."

In changing front the base is given by the marker of the battery formed on (who marks for the right subdivision), and the brigade serjeant major (who marks for the left subdivision). The markers for the remainder mark for the subdivisions nearest the base. The adjutant superintends the dressing from the outer flank, unless he can dress a longer front from the pivot flank.

When a brigade in column enters a distant position, the adjutant marks the point of entry. When a column changes its direction, the adjutant marks the point where such change is made; if the changes are frequent, the brigade serjeant-major assists.

SECTION 5.—DRESSING.

The word "*Dress*" means to the hand to which the men are then looking; but when the dressing is to be to a different point, it will be expressed by the words "*Eyes Right,*" "*Eyes Centre,*" or "*Eyes Left.*" When completed, the word "*Eyes Front*" is given, that heads may be turned square to the front.

In dressing the horses stand straight to the front, and the men's bodies perfectly square, each casting his eye along the next man's face by turning his head in a very small degree towards the dressing hand.

A battery should always dress forward, and if too far advanced it must reverse, and come up to the alignment. When advancing in line, the No. 1 of the subdivision of direction will take up points on which to march, the other Nos. 1 taking their intervals from and dressing by him. With unequal teams, viz., 6 and 4, the lead driver of the latter team dresses by the centre driver of the former.

After a formation, when all is correct, the adjutant gives the word "*Steady,*" and the commanding officer "*Eyes Front,*" when the markers return to their proper places by the shortest route.

In movements in echellon, dressing is invariably by the flank advanced from or wheeled to, and the distance preserved from the preceding battery, half-battery, &c. By attention to these two points the echellon when halted will be in a situation to come into action in any direction, or form line either parallel to the line it quitted or oblique to it.

In dressing in line at brigade drill, majors face the centre of their batteries, with their horses' heads within six inches of the line. Each major gives the word "*Eyes Front*" as soon as his own battery is properly dressed, and the front of the next has arrived on the alignment; upon

this word the major fronts and moves up to his post, three horses' lengths in front; the marker goes to the rear, and the men look to their front; but the base invariably remains posted until the whole brigade is formed, and the words "*Eyes Front*" given by the commanding officer. In resuming their posts majors turn their horses right-about.

When the brigade is to be accurately dressed for purposes of parade, the caution is given "*By the battery of direction, dress;*" the brigade serjeant-major and marker of the battery of direction advance one horse's length in front of the flank subdivisions of the battery, and turn to the right-about, the major also turns to the right-about; the brigade serjeant-major and marker then raise their swords to give a base, which is corrected by the adjutant; all markers then move out, and turning their horses to the right-about, take up their dressing from the base. On the word "*March,*" the subdivisions move steadily up with eyes to the centre. When the dressing is completed, the commanding officer gives the word "*Eyes Front;*" the whole resume their posts.

Dressing in line is by the subdivision or battery of direction.

In column or double column the left directs, unless otherwise ordered.

In successive formations of line each major gives the word "*Eyes Front*" as soon as his battery is properly dressed, and the next battery has arrived on the alignment; upon this word the marker falls in, but the base markers invariably remain posted until the line is formed, and "*Eyes Front*" given by the commanding officer.

SECTION 6.—WHEELING AND SHOULDERS FORWARD.

All wheels of the battery or its parts from the halt are to be made on a flank; during the wheel dressing is to the wheeling flank, which regulates the pace at which the wheel is made, care being taken that the correct interval is preserved from the pivot.

When wheels are made on a fixed pivot the pivot gun (or wagon) must move towards the rear, and wheel about to enable it to form up square. The other subdivisions come into line in succession.

Wheels are made on a movable pivot, except in wheeling from column into line or line into column, which can be done on a fixed pivot.

In wheels on the move the pace must be checked at the pivot and increased at the wheeling flank, so that it may

be completed by every subdivision at the same moment, when the word "*Forward*" is given. When Field Batteries wheel at the trot, the wheeling flank must not increase its pace to the gallop.

To wheel half or quarter right, or left, the word of command is "*Half*" or "*Quarter*" "*Right*" or "*Left*." If it is required to complete the wheel to the full quarter circle, after having wheeled "half right" or "half left" the word is "*Right*," or "*Left*."

In throwing shoulders forward both flanks are kept in motion, the pivot describing part of a circle, and the outer flank and intermediate subdivisions, by a compound of inclining and wheeling, conforming to the pivot movements. To perform wheels on this principle the word is "*Right*" or "*Left*" "*Shoulders*," followed by "*Forward*," when the required degree of wheel has been attained.

When a division wheels about inwards the subdivisions pass each other bridle hand to bridle hand.

PART VI.

PRELIMINARY OBSERVATIONS.

Section 1.—Manœuvres.

A battery has no fixed right or left, and only acknowledges the front to which the guns point when in action, or the horses face when limbered up.

Before commencing manœuvres, the commanding officer gives the order "*Off gloves*," "*Loop swords.*" The gloves are placed on hook of sword belt, which is passed through both button-holes, the swords are then looped as follows: change reins from left to right hand, take hold of the scabbard at the top ring, pass the hilt from front to rear under both slings, point of the scabbard kept down; the sword is then hooked edge to the rear, the sword knot passed upwards under the waist belt behind the rear sling and drawn tight; reins are shifted from right to left hands. Officers, staff-serjeants, and trumpeters do not loop swords.

The men on the carriages place their gloves in the pocket of the blankets underneath the straps.

The "*Trot*" is the pace of manœuvre, and should be regulated with reference to the slowest horse. It is never to be sounded previous to the sound "*March*," it being understood that where no pace is ordered it is the "*Trot.*" When it is required either to "*Walk*" or "*Gallop*," those preliminary sounds will be given.

In all formations of either line or column, at any pace exceeding a walk, the word "*Walk*" is invariably to precede by a few seconds the words "*Halt*"—"*Dress.*"

If a formation is ordered when a battery is moving, the original pace will be preserved by the "base" body, while that of each portion of the remainder will be increased or diminished as may be necessary, until the formation is completed; but in field batteries, if moving at the trot, and the formation is at the head of the column the pace of the "base" body will be diminished to the walk until the formation is completed, when the trot will be resumed.

Should a brigade be moving when a formation is ordered, the "base" body will advance its own depth and halt; if forming line to the front from column, the rear of the column completes the formation by an oblique movement. If the caution "*On the Move*" is given the base body continues to

move on at the original pace, while that of each portion of the remainder, will be increased, or diminished, as may be necessary until the formation is completed; except when the formation is on the head of the column, which will walk.

Artillery cannot be wheeled about on its own ground; when acting with other troops, sufficient interval should be allowed on each flank to enable the subdivisions to wheel outwards if required. As a general rule when carriages reverse they do so to the right. It remains in rear of any intended alignment until the other troops are finally formed, unless ordered to the front to cover the formation.

Although the admixture of guns of different batteries may be unavoidable on service, it is most desirable at drill that the battery as a unit should not be broken up. When it is necessary to invert a battery it must not be done by half batteries, as by so doing the subalterns would be removed from the command of their respective divisions.

All formations of line from column, or column from line, are made at full intervals unless otherwise ordered, without reference to whether the brigade was at full or close intervals.

In all standing formations, either from line or column, the part next to that formedon makes two square movements.

In column, if the command "Form line" is given (and no flank named) the line is to be formed on the left of the head of the column. If the line is ordered to be formed on the rear of the column (and no flank named) it will be formed on the right of the rear.

When artillery is about to advance or retire through a line of infantry, notice should be sent to the officer who commands it, that an opening may be ordered without confusion.

All officers should know the number of yards which the front of a battery or any of its component parts occupy, and be able, by the eye and pace of their horses, rapidly to take up such distances.

In moving over rough ground it is desirable that the Nos. 1 should ride some distance in front of their subdivisions, in order to point out the best ground for the guns to pass over.

LINE.

From line all formations of column will be in rear of the named battery, or part of a battery, if the formation is on a central battery or part of a battery, those on the right will form immediately in rear of the base, and then those on the left.

When a line is ordered to change front to a flank, by throwing a flank forward, such change is made on the flank battery, which immediately changes front in the required direction and gives the base, the other batteries should rather under wheel in the first instance, to enable them to clear the carriages of the battery on their inner flank.

When a change of front is made by throwing a flank back, the base battery changes front by wheeling up, the other batteries are reversed by subdivisions, conducted to a sufficient distance beyond the new alignment, again reversed, and moved up into line.

A change of front may be made on any battery, the named battery changing front on its flank gun; or the change may be made on any gun of any battery.

A brigade in line may advance or retire by divisions or half batteries from the right or left of batteries, thereby becoming a column, moving to a flank in this formation it may pass any obstacles or broken ground, without risk or disorder, or without material loss of distance in the general line.

ECHELLON.

Direct echellon is formed by the successive march of batteries, half-batteries, divisions, or subdivisions, to front or rear, and is particularly adapted to resist attacks in front or flank.

Oblique echellon is formed by wheeling batteries, or any part of them, less than a quarter-circle, so as to be oblique to the former front, and parallel to each other. It is used to gain ground to a flank while moving to the front. The distances and intervals arrived at (when the new direction is gained) should be carefully preserved.

CHANGE OF FRONT OR POSITION.

The changes of front in line are made by the echellon march of batteries either to the front or rear; the batteries are wheeled, half the angle ordered for the base battery, towards the new front, and are conducted to it by their inward flanks; on approaching their positions the wheel is completed and the line formed.

Changes of position of the brigade from one distant situation to another are made either in line, by the direct echellon, by the oblique echellon of batteries, by battery columns of half-batteries, divisions, or subdivisions, or by the movements of the column. In changes of position by oblique echellon, the batteries wheel half the amount of the intended change, then move to the new position, where the base battery again wheels the required degree into the

new alignment, and the formation is completed in the usual manner.

COLUMN.

In formations of line from column, the line may be formed on either or both flanks of the head of the column. In column, if the command is "*Form Line*," the line is formed on left of the head of the column. If it is intended to form the line on the right of the head of the column the command is "*On the Right*," "*Form Line.*" If the line is to be formed on both flanks, the portion which is to form on the right is that immediately in rear of the head of the column. If the line is to be formed on the rear it will be on the right of the rear of the column.

Deployments are made from quarter column and on the head of the column to either or both flanks.

Forming line from any position should be practised; for example, when the head of a column of divisions has wheeled to the right, or left, to form line to the front or a flank before the rear division has entered the new direction. The word of command for the rear division depends on the position it may be in at the time the word to form line is given, and must be regulated accordingly.

Changes of direction in a quarter column must always be made on a movable pivot to enable the rear gradually to comply.

Distant positions, where circumstances will allow, are taken up by the march of the column, for this purpose the whole line wheels to the hand ordered, by batteries, half-batteries, or divisions, and moves off in a general column.

ACTION.

Guns on service are to be brought as rapidly into action as possible, the inversion of the order in which they stand on parade, or the exact preservation of the interval or dressing, are matters of little importance.

The nature of the ground should govern the position of guns, and every advantage should be taken of any cover which will protect the limbers from the enemy's fire without sending them too far to the rear.

The attention of officers in action should be principally directed to the effect of the fire of the guns, so that they may order any alteration required in the elevation or laying.

Previous to taking up a position the officer commanding the battery, or some one sent by him, should ride forward and select a suitable site for the battery to come into action.

A column expecting to be attacked on a flank will, of course, march with no greater front than subdivisions.

When a battery in line is ordered for action, the guns are not to be loaded until the word "*Load*" is given by the commanding officer, who will specify the nature of ammunition to be used. This must be loudly repeated by the officers, and instantly taken up by the Nos. 1, that no mistake may arise in the execution. The guns are not to be fired without orders.

No gun should be fired until the gun which formed next after it has been unlimbered, the limber reversed, and clear of the front.

When guns are in action and a change of front is ordered, the gun, or base named, on which the change is made, comes into action in the new direction at once; the other guns move at the word "*March.*"

When guns are formed in line for action in succession they are loaded and fired as soon as formed, unless directed to the contrary. They continue independent firing until "*Stand fast*" or "*Cease firing*" is ordered. If ordered to fire a certain number of rounds, the firing should commence from the right or left of batteries or half-batteries, according to the wind; a regular and continued fire will thus be maintained.

On "*Stand fast*" being ordered, guns then loaded are not to be fired off, but the detachments will complete the loading of such as have been discharged, and all await the order to recommence firing.

On "*Cease firing*" being ordered, all guns then loaded are to be fired off, and on no account is a gun ever to be limbered up when loaded.

Batteries must, in order to fire with effect, remain as long as possible in their positions. They should only leave those positions when the object of action is either attained or is no longer attainable, or when a longer continuance in them only brings danger without contributing to the decision of the action.

Guns should be laid on some definite object, and it is only by concentration of fire that great results are obtained.

With the exception of case shot, the first few rounds at an unknown range must be trial shots, and should be fired slowly and carefully watched, and the range at first should be rather under-estimated, as it is more easy to correct the range when shot strike in front of the object fired at than beyond it. Independent fire should not be employed until

the range is thoroughly ascertained, and then only when a great effort is required.

When guns are in heavy ground they should be brought into action in the required direction by the word "*Action rear,*" so as to save the gunners unnecessary labour; for a similar reason they should be limbered up to the rear.

To keep guns concealed as much as possible in exposed positions, such as the reverse side of slopes, &c.; they should be halted, and the detachments dismounted under cover. Nos. 1, under instructions from their officers, advancing on foot, mark the exact position for their guns. When this has been done each gun should be moved to the spot indicated.

SECTION 2.—SUPPLY OF AMMUNITION AND REPLACEMENT OF CASUALTIES IN ACTION.

When a battery takes up a position for action, the wagons, spare men, and horses should be drawn up under charge of the captain about 200 yards in rear of the least exposed flank of the battery, in any formation which may be best suited to take every advantage of cover afforded by the nature of the ground.

The distance of 200 yards is merely laid down as a convenient distance for drill purposes; the great object of the officer in charge of wagons should be to keep them out of fire and yet within easy reach of the guns, so as to act as an immediate reserve. If, therefore, good cover can be obtained from 100 to 500 yards from the guns he should avail himself of it.

When the officer commanding the battery requires ammunition he will communicate with the officer in charge of the wagons. Three wagons with four gunners (two per subdivision) mounted on each to replace ammunition will be sent forward at the trot, and on arriving at the battery will be reversed in rear of the interval between the limbers of the guns of the three divisions; the ammunition will be taken out commencing with the rear boxes, each subdivision being supplied from the boxes of the wagon on the side next to it. Under pressing circumstances, when a speedy completion of the ammunition is necessary, the limbers of the ammunition wagons may on their arrival at the guns be exchanged for the gun limbers of the right subdivisions of divisions. The wagons, as soon as the gun limbers are filled up, will return independently to their positions under cover, when they

should be immediately inspected, and any ammunition remaining in the boxes of the three wagon limbers collected in one wagon, and the two empty wagons at once despatched to the ammunition reserve to be filled up. The officer in charge of the wagons should always keep himself informed of the position of the ammunition reserve, ascertain the best road by which to reach, and keep up a constant communication with it.

As the supply of ammunition in the field is a matter of great importance, the above instructions should be practised on drill parades and carried out on field days with other troops, part of the gun limber ammunition on such occasions being left in quarters.

It is the duty of the officer in charge of the wagons to keep himself informed of the exact position of the battery to enable him to comply with these instructions. He must, with due regard to movements of other corps, preserve the distance laid down, and, unless specially ordered, 500 yards must never be exceeded. All casualties in men and horses are to be made good whenever reported to him from the battery.

SECTION 3.—ESCORTS FOR ARTILLERY.

Artillery cannot provide for its own security against attack.

In order to give a battery the necessary freedom in its movements, and thereby to enable it to come into action with sudden effect, to protect it against the fire of skirmishers, and particularly against attacks on the flanks or rear, a special escort of other troops (never less than a troop of cavalry, or company of infantry) should be attached to it for the whole day, remaining with the guns under all circumstances, and being entirely under the direction of the officer commanding the battery.

The escort for the guns should be selected according to the ground, and to the object of the action. In open country or in offensive operations, cavalry is most suitable; in hilly, wooded, or much enclosed country, and generally on the defensive, infantry.

In intersected ground, which favours the enemy working its way up, and more particularly in advanced situations, the strength of the escort should be proportionately increased. The officer commanding the battery should apply for this if necessary, and under pressing circumstances should claim this reinforcement of the escort from the nearest detachments of troops.

In movements towards the enemy, where a battery advances to take up a position, the escort of cavalry should move forward on the open or exposed flank, halting if in an open plain about 100 or 200 yards to the rear, and on one flank; should there be cover close to the battery the commander of the escort will, of course, take advantage of it. By moving forward at a rather slower pace than the guns, the horses of the escort will arrive at their post fresh and ready for a charge, should such be necessary to repel any attack on the guns.

If the officer commanding a battery has any doubts about the safety of a new position, he will send forward a few videttes at the gallop before advancing his guns to occupy it; these men will instantly signal if it is clear or not.

When a battery comes into action in a new position some videttes should be detached at the gallop to the most prominent position on the exposed flank and rear of the battery, and not less than 400 or 500 yards from it, and any threatening movement of the enemy towards the battery should be at once signalled or communicated by these videttes.

In retiring, the escort should allow the guns to pass it, and then move steadily to the rear, well on the flank of the battery, halting each time the guns come into action, as close to them as circumstances and cover will allow.

In positions near a wood or in thickly enclosed country, when infantry is detailed as the escort, it should send forward skirmishers, and actively patrol the ground, so that no skirmishers or detachments of the enemy could succeed in drawing near, and causing casualties in the battery.

SECTION 4.—PICQUETS.

Picquets are detachments sent out from an army in quarters, camp, or bivouac, to the front, flanks, or rear, for the purpose of security against surprise.

Picquets are of two descriptions, outlying and inlying, varying in strength according to circumstances. Picquets of artillery are generally employed for some special purpose to protect a ford, bridge, defile, &c. &c., and should never consist of less than two guns.

The outlying picquet is thrown forward a considerable distance in front of the camp or cantonment, the inlying picquet usually remains in camp accoutred, harnessed, and ready to turn out and support the outlying picquet at a moment's warning.

The officer in command of a picquet must, before marching, ascertain that he has a proper supply of ammunition,

and rations for men and horses; he should also make arrangements for the immediate supply of ammunition to replace any he may be called upon to expend whilst on picquet duty.

Officers going out on picquet duty, must examine all the roads and country over which they pass on their way from the camp, and note favourable positions for their guns, for disputing the ground in case they are driven in by the enemy.

When an officer in charge of a picquet arrives on the position he is to occupy, he should look out at once for a favourable position for his guns, and improve any natural cover he may find, by digging gun pits, throwing up an epaulment, &c. &c., he should also try and ascertain the range of all objects within 2,000 yards of his post, and after a careful study of the nature of the ground, make up his mind what description of projectile he will use in the event of an enemy advancing in any particular direction.

The horses of an outlying picquet should never be unhooked on any account, and only half of them should be fed at one time. When a fire can be allowed, it should be placed behind some sheltered spot in the rear, and a few men only must go to it in turn.

A picquet when driven in must retire as slowly as possible, taking every advantage of the road or ground to check the enemy's advance.

Upon the relief of a picquet it should never be marched off until the new one is completely established. The officer relieved should afford the officer who relieves him, the fullest information as to the ground, roads, &c. &c. in the neighbourhood, and should hand over to him any memorandum he may have made of the ranges of different points within view.

As attacks are most commonly made about daybreak, a picquet should be held in the utmost readiness for an hour before daybreak, and it is usual to relieve picquets at that hour so as to have a desirable accession of force at hand.

If the new picquet should be attacked before the old picquet arrives in camp, the old picquet will instantly march back to its support.

Extract from "Field Exercise and Evolutions of Infantry."

"Part IV., Ss. 22 and 23.

"POSITION OF ARTILLERY.

"The usual position of artillery on parade is on the right of the line, with an interval of 22½ yards, 28½ yards, or 32½ yards,

according to the number of horses in the guns, whether four, six, or eight.

"When a division is formed for attack on open ground, the divisional artillery should be posted in any favourable position with reference to the main line, and is always to be attended by a sufficient escort as an immediate support to the guns, in rear of the most exposed flank.

"As the movement is developed the guns should be so placed as to enable a concentrated fire to be brought to bear on the point where the main attack is to be made. This fire should always precede the advance of the infantry, and be kept up as long as possible. The guns may for this purpose, when specially ordered, fire over the heads of the infantry, but as the practice is attended with risk it should only be resorted to in cases of great emergency.

"The reserve artillery should be posted at a convenient distance in rear of the division, in a position protected as much as possible from observation and fire. When required for action the batteries should advance to the front, with their escort, by the flanks; in cases of emergency they may pass through the intervals of the infantry line.

"When dispositions are made to meet a flank attack, and the maintenance of the fire of the divisional artillery towards the original front is still necessary, the reserve artillery should proceed towards the point threatened and operate upon the flank of the enemy's force engaged in the turning movement.

"EMPLOYMENT OF ARTILLERY DURING FIELD MANŒUVRES.

"The following instructions relative to the employment of horse and field artillery when acting with other arms of the service are to be observed in all field manœuvres:—

"General officers commanding divisions or detached brigades should confer with the officer commanding artillery under their orders as to the general employment of the artillery in the movements about to be executed. The officer commanding the artillery will then give the necessary directions to the officers in command of batteries, who are, however, to be permitted, under due supervision, to use their own judgment in selecting the best positions from which to cover an attack or retreat, and in conforming as far as the nature of the ground will admit to the movements of the corps to which they may be attached.

"Any special directions received by the officer commanding the artillery from the officer in command of the troops relative to changes in the disposition of the batteries during the movements will be promptly carried out.

"When guns have taken up a good position they should not be moved from it as long as their fire is considered thoroughly effective.

"It should be remembered that artillery ought not to be exposed to infantry fire, although on service unavoidable circumstances may occasionally render such exposure for a time necessary."

PART VII.

FIELD BATTERIES.

PRELIMINARY REMARKS.

In imparting instruction in Artillery drills, it should be borne in mind, that in every change of numbers men have to learn different duties and to handle different implements from those they were previously engaged with; the duties again vary with the several natures of ordnance, which are themselves divided into two classes: muzzle-loading and breech-loading ordnance. It is therefore impossible that such a variety of exercises can be well executed, unless the *object* of the various duties is comprehended.

Long explanations relative to the position of the body are to be avoided, the drill instructor should either place each man in the position he is to occupy in the performance of his duty, or himself show how the duty is to be performed.

Great patience and the utmost precision are necessary on the part of the instructor. He should more especially endeavour to excite a spirited and active deportment in the squad; and, above all, be particularly careful not to dwell too long on any one point in the drill. A portion, therefore, of each lesson should be devoted to theoretical instruction and to an explanation of the different parts of the guns, carriages, and ammunition which are used, pointing and laying, preparing shells and fuzes, judging distances, and the use of the several projectiles at proper ranges. This instruction may be given at intervals during the time the ordinary drills are being learnt.

On no account whatever should the instructor allow the detachment to pretend to load or lay the gun. The essence of drill is that the Nos. should handle correctly the material belonging to the gun. To enable them to do this a dummy cartridge and a tube, either drill or service, must be used every time the gun is loaded, together with the projectile and wads, &c., ordered.

It is to be distinctly understood that no recruit is to go to practice until he has been well instructed in laying guns, in boring fuzes, and in preparing shells.

In the service and exercise of the various descriptions of ordnance the same Nos., as far as possible, always perform the same duties.

The instructor should ascertain that each No. is at his post by proving. This he does by calling out No. 1 "*Prove,*" No. 2 "*Prove,*" &c. The man called upon raises his right arm and extends it smartly to the front, hand open, thumb upwards, hand as high as the shoulders. When the next No. is called he drops his hand. The last No. lowers his hand at the word "*Down.*"

On all occasions before giving a word of command, No. 1 should repeat the number of his gun.

At the sound or order "*Stand fast,*" when a gun is loaded it will remain so, if in the act of being loaded, the loading will be finished and the gun not fired until the order to recommence firing is given.

At drill or exercise on the order "*Stand fast,*" every No. will remain steady in the position in which he is.

Loading should be performed as rapidly as is consistent with the proper performance of all the duties, avoiding confusion.

The cartridge should be kept covered until the sponge is out of the bore.

A sponge for rifled guns should be high, it should be allowed to take the twist of the rifling, and forced to the bottom of the bore.

The sponge should be kept well damped, as the loading is thereby facilitated.

If a shot jams in the bore, and cannot be got out by lowering the muzzle, the cartridge must be drowned and the charge blown out by the introduction of a small quantity of powder poured into the vent.

No gun is ever to be fired without the order of the No. 1.

INSTRUCTION IN LAYING ORDNANCE.

EXPLANATION OF TERMS.

Before proceeding to instruct in laying, it will be necessary to explain everything connected with the sights and scales, also certain terms, such as axis of the gun, axis of the trunnions, line of fire, line of sight, trajectory, range, elevation and depression, deflection, and velocity.

Should it be necessary to make use of such terms as parallel, right angles, horizontal, vertical, &c., they also must be explained.

Axis of the Gun.

The axis of a gun is an imaginary line passing down the centre of the bore.

Axis of the Trunnions

Is an imaginary line passing through the centre of the trunnions at right angles to the axis of the gun.

Line of Fire

Is the prolongation of the axis of the gun.

Line of Sight

Is the line passing through the notch of the tangent scale and tip of the trunnion sight to the object.

Trajectory

Is the line made by the shot in passing through the air.

Range

Is the distance from the muzzle to the second intersection of the line of sight and the trajectory.

Elevation or Depression

Is the angle formed by the line of fire and line of sight.

Deflection

Is the distance of the trajectory to the right or left of the line of fire measured perpendicularly.

Velocity

Is the rate at which a shot moves. Initial velocity is that with which it leaves the bore of a gun. The force with which a shot strikes depends on its weight and velocity.

SIGHTS.

The following sights are in the service:—

1. Hind { Tangent scale. / Centre, hind.
2. Fore { Trunnion / Centre, fore } screw or drop.
3. Muzzle sights.

The manner in which they are fitted to the gun must be pointed out.

SCALES.

The hind sights, tangent and centre, are marked with scales for elevation, and the tangent fitted also with a scale for deflection.

Scale for Deflection.

The scale for deflection is a horizontal scale graduated to show minutes.

TO ADJUST THE SCALE FOR ELEVATION.

The hind sight is raised until the mark for the required number of yards is in line with the top of the socket in which the scale slides, and clamped.

TO ADJUST THE SCALE FOR DEFLECTION.

Deflection is given to the right or left of the zero point until the arrow points to the required number of minutes. The scale is then clamped. Deflection is always given on that side to which the shot is to be thrown.

As a practical rule each minute of deflection on the sight gives a difference of an inch in every 100 yards of range; thus supposing that at a range of 2,400 yards a projectile has struck 12 feet to the right of the object it will be necessary to move the leaf 6 minutes to the left or give "six minutes left deflection" to correct the error, because 12 feet = 144 inches divided by 24 (the number of hundreds of yards in the range) gives 6.

TO LAY A GUN.

To lay a gun is to direct it in such a manner that the top of the notch of the hind sight, the apex of the fore sight (whether muzzle or trunnion), and the object are in line.

The scales having been adjusted as explained, No. 1 proceeds to lay the gun, he places himself in rear of the gun, bringing his eye to a level with the top of the hind sight, and about six inches in rear of it; and when laying guns where it is necessary to stoop, places his feet so that the body is well balanced, steadying himself by leaning on the gun with his arm; and gives the necessary orders for elevating or traversing, until the gun is laid as above; with field guns he himself elevates or depresses.

With guns fitted with a traversing bar the final adjustment is given by No. 1 himself.

In laying a gun, avoid putting the back of the nail on the top of the sight, the hand to cover the eye, holding the tangent scale, or other peculiarity.

Much will depend on the Nos. who move the gun under direction of No. 1. With practice and intelligence they will readily understand when the gun is to be moved fast or slow, much or little. The word of command will be a guide to them. When loud they will work fast, when low they will understand that the gun is nearly on the object and must be moved gently.

General Rules to be observed.

Get a clear view of the object, and see that the gun is approximately in the line of fire before looking over the sights.

Give a word of command to move the gun at the same instant that you look over the sights.

Always lay as quickly as possible, as the eye will not then become wearied.

Fixed Objects.

In firing at a target, invariably lay on the bull's-eye.

Lay on the point to be struck with guns fitted with deflection scales; as all allowances for wind, difference of level in trunnions, should be made on the scales, not by laying high or low, right or left.

When one wheel stands lower than the other, the gun will throw the shot towards the lowest side.

The wind has considerable effect in causing the shot to deflect to the right or left, especially at long ranges.

Moving Objects.

No man ought to be allowed to fire at a moving object unless he has shown an aptitude for laying guns at a standing mark.

For beginners it will be convenient to move the object across the range in such a manner that the elevation may remain nearly the same; with skilled men the object can move obliquely across the range.

If the object is moving parallel to the front of the battery, the best rule is: first calculate the distance that the gun must be laid in front of the object, taking into consideration the range and rate of motion, and traverse in front of it just

sufficiently to allow the gun to be fired deliberately when the object comes to the distance for which allowance has been made; the elevation being given with reference to the line on which the object is moving. If it is necessary to move the trail a second time, the elevation must be corrected.

In laying guns having a deflection scale, the allowance can be made on the scale, and the gun must then be fired as the object crosses the line of sight.

It must be remembered that in firing at moving objects the ranges are constantly varying, and consequently the length of fuze.

It is found in practice that the principal errors are those of elevation, arising from the fact that in laying ahead the gun is not truly on the line in which the object is moving.

Where the horizon is well defined, the eye is often misled by it.

TO JUDGE DISTANCES.

As it is evident that the distance should be known in order to determine the required elevation and length of fuze, too much pains cannot be taken in instructing men to ascertain distances correctly.

In all positions there are many objects, the ranges of which are known, men may therefore be constantly exercised in judging distances.

Range finders will be generally introduced into the service; they should not be allowed to serve as an excuse for not teaching men to be quick at judging distances, but should rather assist the instruction. Cases may arise where minutes may be of immense importance, and a readily guessed range of great use. Accident might also disarrange the instruments, and without knowledge much time and ammunition be wasted.

Ground is most deceptive, and the apparent distance varies with light, &c., and very little can in reality be ascertained by a trial shot.

SECTION 1.—DRILL WITH R. M. L. ORDNANCE.

The detachment consists of one non-commissioned officer and eight gunners, and falls in two deep in rear of the gun, which is limbered up.

TO TELL OFF.

Officer.	*No.* 1.
Tell off.	

At "*Tell off.*"—No. 1 (who is on the left of the detachment) takes a pace to his front, turns to his right, and numbers himself 1; the right-hand man of the rear rank numbers 2; the right-hand man front rank 3; the second man from the right of the rear rank 4; the man in his front 5, and so on; after the detachment is told off No. 1 falls in again on the left of the front rank.

No. 1 then straps on the fuze pocket on his right side, and 5 the tube pocket.

The front is that direction in which the gun is pointed when unlimbered, or to which, when limbered up, the horses' heads are turned.

POSITION OF DETACHMENT WHEN LIMBERED UP.

IN ORDER OF MARCH.

No. 1 in line with the point of the near shaft and two yards on the left of it.

Nos. 2 and 3 in line with the axletree of the gun carriage.

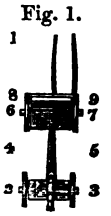
Nos. 4 and 5 in line with the centre of the trail.

Nos. 6 and 7 in line with the axletree of the limber.

Nos. 8 and 9 in line with the splinter bar.

The Nos. stand covering, one yard from the wheels. (Fig. 1.)

Fig. 1.



IN FRONT.

Two deep two yards in front of the shafts.

IN REAR.

Two deep two yards in rear of the muzzle of the gun.

RIGHT OR LEFT.

Two deep in line with the gun axletree, one yard to the right or left of the wheel.

MOUNTED.

No. 1 on his horse; 4 and 5 on the gun limber; 2 and 3 on the wagon limber; 6 and 7 in front of, and 8 and 9 in rear of, the wagon body; 2, 4, 6, 8 on the near; 3, 5, 7, 9 on the off side.

When the gun is not accompanied by its wagon, Nos. 2 and 3 on the axletree seats, 7 between 4 and 5 on the gun limber.

TO MOUNT.

Officer	*No.* 1.
Prepare to mount.	*Prepare to mount.*
Mount.	*Mount.*

"*Prepare to mount.*"—No. 1 runs to his horse, the other Nos. to their places, 2 and 3 to the wagon limber, 4 and 5 to the gun limber, 6 and 7 the front of wagon body, 8 and 9 to the rear of the wagon body; 2, 4, 7, and 8 lay hold of the guard irons with their left hands; 3, 5, 6, and 9 with their right; 4 places his right and 5 his left foot on the trail handle; 2, 6, and 8 their right, and 3, 7, and 9 their left feet on the spokes of the wheels.

"*Mount.*"—The whole spring into their places, (the Nos. on the gun limbers facing to the rear, but turning round to the front, lifting their feet close together, and throwing them over the guard irons,) and when seated lay hold of the hand straps with both hands, and sit upright.

In passing over rough ground, the gunners should lay hold of the guard irons with their outward hands, and slightly raise themselves from their seats to avoid being jolted.

"*Sit at Ease.*"—Drop the hand straps, and sit well back, both hands remaining between the thighs.

TO DISMOUNT.

Officer.	*No.* 1.
Prepare to dismount.	*Prepare to dismount.*
Dismount.	*Dismount.*

"*Prepare to dismount.*"—Nos. 4 and 5, throwing their legs over the guard irons, turn to the rear, the other Nos. stand up, keeping their outward hands on the guard irons.

"*Dismount.*"—The whole jump off and form the order of march, but if for action they go to their posts at the gun.

TO MOUNT AND DISMOUNT ON AXLETREE SEATS.

"*Prepare to mount.*"—Nos. 2 and 3 lay hold of the guard irons, No. 2 with the left, 3 with the right hand, No. 2 places his left, and No. 3 his right foot on the foot rest.

"*Mount.*"—Nos. 2 and 3 spring up, and, turning inwards, place themselves on the axletree seats, and lay hold of the hand straps with the inward, and guard irons with the outward hands.

"*Prepare to dismount.*"—Nos. 2 and 3 drop the hand straps, and place their inward hands on the gun, and their feet in front of the foot rests.

"*Dismount.*"—Both spring to the ground.

EXERCISE WITH DRAG ROPES.

When drag ropes are used Nos. 6 and 7 pass them towards 2 and 3, who hook them to the drag washers of the gun on their own side. The Nos. manning them on their own sides. No. 9 is in the shafts.

TO ADVANCE WITHOUT DRAG ROPES.

Nos. 2 and 3, between muzzle and wheel, push at the axletree boxes, 4 and 5 man the gun wheels, 6 and 7 the splinter bar, 8 and 9 assist at the points of the shafts.

CHANGE OF POSITION OF DETACHMENTS.

TO FORM THE ORDER OF MARCH FROM DETACHMENT FRONT.

Officer.	*No.* 1.
Form the order of march.	*Right turn, Double march.*

"*Right turn, Double march.*"—No. 1 turns with the detachment; 2 and 3 wheel to their right and open out. Each number halts when at his post; they turn to the front together, looking to No. 2, who turns about immediately he arrives at his station.

TO FORM THE ORDER OF MARCH FROM DETACHMENT REAR, RIGHT, OR LEFT.

Officer.	*No.* 1.
Form the order of march.	*Left turn, Double march.*

When the detachments are in rear, or on the right, they proceed direct; but when on the left they countermarch to the left. No. 1 heads the rear rank. Each number halts when at his post.

TO CHANGE FROM FRONT TO REAR.

Officer.	*No.* 1.
Detachment rear.	*Right turn, Double march.* *Rear turn.* *Right turn, Halt, Front.*

When the detachment is clear of the gun it turns to the rear; when in line with the position of "*Detachment rear*" it turns to the right, and when in rear of the muzzle it halts and fronts.

TO CHANGE FROM REAR TO FRONT.

Officer.	*No.* 1.
Detachment front.	*Right turn, Double march.* *Front turn.* *Left turn, Halt, Front.*

When the detachment is clear of the gun it turns to its front, when in line with the position of "*Detachment front*" it turns to its left, and when in front of the leading horses it halts and fronts.

TO CHANGE FROM REAR TO RIGHT OR LEFT.

Officer.	*No.* 1.
Detachment, right (left.)	*Right (left) turn, Double march. Front turn, Halt.*

The detachment turns to its front when one yard clear of the gun wheel, and halts when in line with the axletree.

TO FORM DETACHMENT REAR FROM THE ORDER OF MARCH.

Officer.	*No.* 1.
Detachment rear.	*Right about turn, Double march. Halt, Front.*

Nos. 2 and 3 close to the centre, and wheel to their left, marking time when opposite the off wheel and two yards from it, as soon as the detachment has closed up it is halted and turned to the front.

TO FORM DETACHMENT FRONT FROM THE ORDER OF MARCH.

Officer.	*No.* 1.
Detachment front.	*Double march.* *Halt, Front.*

No. 1 doubles out two yards in front of the near shaft, turns to his right, and gives the order "*Double march.*"

Nos. 8 and 9, followed by the other Nos., double out. As soon as 8 is clear of the shafts he inclines towards 9. When 8 and 9 arrive in line with No. 1 they wheel to their left, and mark time; when the detachment is closed up, No. 1 gives "*Halt, Front,*" turning himself to the front at the same time.

TO CHANGE ROUNDS WHEN THE GUN IS LIMBERED UP.

The detachment being at the "order of March" in changing rounds.

No.	2	becomes No.	4.
„	4	„ „	6.
„	6	„ „	8.
„	8	„ „	1.
„	1	„ „	9.
„	9	„ „	7.
„	7	„ „	5.
„	5	„ „	3.
„	3	„ „	2.

TO UNLIMBER.

Officer.	*No.* 1.
Action, Front.	*Action, Front.*
„ (*Right.*)	„ (*Right.*)
„ (*Left.*)	„ (*Left.*)
„ (*Rear.*)	„ (*Rear.*)

"*Action front.*"—No. 5 unkeys; Nos. 1, 4, and 5 lift the trail; 1 and 5 at the trail eye, 4 on the right of 1; 2 and 3 man the wheels. When the trail is clear No. 5 gives "*Limber —Drive on,*" the limber moves forward a yard, then reverses to the right, and the trail is carried round a half circle to the left, 1 and 4 shifting round the trail, as soon as the limber makes room, to avoid walking backwards. The numbers then place themselves as detailed for "Action." When the limber is sufficiently to the rear, it reverses to the right, and halts ten yards in rear of, the trail eye covering the gun. The wagon reverses to the right, and when sufficiently to the rear reverses to the right again, and halts four yards in rear of, covering the limber.

"*Action rear.*"—The gun is unlimbered by the same Nos. as in "*Action front,*" but the trail is not thrown round; the limber moves forward one yard, inclines to its left and then reverses to its right, and halts ten yards from the trail eye covering the gun. The wagon inclines to the left, moves to the rear, and forms up four yards in rear of the limber.

"*Action right.*"—Is the same as "*Action front,*" but the

trail is carried round a quarter of a circle only, the limber drives on one yard, then takes ground to its left and reverses to its left. The wagon the same as the limber.

"*Action left.*"—The trail is taken to the right, No. 5 shifting round the end as soon as the limber makes room.

The limber takes ground to its right and reverses to its right, the wagon the same as the limber.

In all unlimbering, except for action left, 4 should shift round the trail as soon as it is unhooked, so as to avoid walking backwards—at "*Action left*" 5 must do so.

When there are no horses, 6, 7, 8, and 9 attend to the limber, No. 9 is between the shafts, 8 at the point of the near shaft, 7 at the point of the off shaft, and 6 in rear of the limber.

No. 1 is responsible for the correct dressing of his gun when it comes into action.

POSITION AND GENERAL DUTIES.

No. 1 ships and unships the handspike, stands at the end of it, points, commands, bores and fixes fuzes when the shells are fuzed at the gun and hands them to 3, lifts at the end of the handspike, in running up and back.

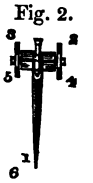
Nos. 2 and 3 stand outside and in line with the front of the wheels.

No. 2 sponges, rams home, and mans the right wheel.

No. 3 loads, uncaps, or removes safety pin from fuze when in the bore, serves ammunition from axletree boxes, and mans the left wheel.

Nos. 4 and 5 stand in line with the breech, outside the wheels.

Fig. 2.



No. 4 supplies 2 with sponge, and replaces it on the trail, serves and drifts the vent, pricks the cartridge, traverses at the end of the handspike, and mans the right wheel.

No. 5 makes ready, fires, and mans the left wheel.

No. 6 stands five yards in rear of the left wheel, serves 3 with ammunition, hands shell to No. 1 when fuzed at the gun, lifts at the end of the handspike in running up or back.

No. 7 stands in rear of the off limber box, supplies cartridges and projectiles to 8, bores and fixes fuzes, when the shells are fuzed at the limber.

No. 8 stands in rear of the near limber box, supplies 6 with ammunition, and assists 7.

No. 9 attends to the ammunition wagon, and refills the gun limber from it when necessary. (Fig. 2.)

GENERAL DUTIES WITH REDUCED NOS.

3 *Nos.*

No. 1 points, commands, serves the vent, pricks the cartridge, makes ready and fires ; 2 sponges and rams home ; 3 loads and traverses.

4 *Nos.*

No. 1 points, commands, makes ready and fires ; 2 sponges and rams home ; 3 loads; 4 serves the vent, pricks the cartridge, and traverses.

5 *Nos.*

No. 1 points and commands ; 2 sponges and rams home ; 3 loads ; 4 serves the vent, pricks the cartridge, and traverses ; 5 makes ready and fires.

6 *Nos.*

No. 1 points and commands ; 2 sponges ; 3 loads ; 4 serves the vent ; 5 fires ; 6 supplies ammunition.

7 *Nos.*

No. 7 supplies ammunition to 6. The other Nos. as before.

8 *Nos.*

No. 8 assists 7, and supplies 6 with ammunition. The other Nos. as before.

ACTION.

Officer.	*No.* 1.
Action.	*Action.*

The gun being unlimbered at the word.

"*Action.*"—No. 1 ships the handspike, satisfies himself that the gun and its fittings are in good working order, and that the bore and vent are clear.

No. 2 turns to his left, receives the sponge from 4, and remains facing the gun, with the sponge stave in his right hand, sloping at 45°, rammer head on the ground to the rear.

No. 3 turns to his right.

No. 4 turns to his left, steps in, unbuckles the sponge, and throws it over to 2, steps out again, and remains facing the gun.

No. 5 turns to his right, takes the lanyard out of his tube pocket, which is on his right side, and puts it under his belt.
No. 6. remains steady.
No. 7 prepares to issue ammunition.
No. 8 assists 7.

LOAD.

Officer.	*No.* 1.
Range — Yards *With — Load.*	*With — Load.*

"*Load.*"—No. 1 communicates the directions which he receives from the officer as to the nature of projectile to be fired to 6 and 7, and when time fuzes are used bores a fuze and inserts it in the shell brought to him by 6. He adjusts the scale of elevation and deflection, and, as soon as the gun is loaded, lays it as laid down at page . If the shell is fuzed at the gun he receives it from 6, and hands it to 3.

No. 2 takes an oblique pace to the right with the right foot, then an oblique pace to the left with his left, then a side pace of 30 inches to his right; he then enters the sponge head into the bore, shifts his left hand back under to the right, straightens right knee, forces the sponge up the bore until his hands meet the face of the piece, shifts his hands to the rammer head, and forces the sponge hard home, bending over the left knee. He then gives the sponge two half turns by first lowering his wrist and then raising it, at the same time pressing the sponge against the bottom of the bore. He next draws the sponge out about half its length, at the same time straightening the left knee and bending over on his right; then again bending over the left knee, and shifting his hands to the centre of the stave he bends outwards, withdrawing the sponge, and with the left hand close to the head, turns the sponge, keeping the right hand fast, but turning the wrist, and throwing the sponge head upwards with the left hand, with which he seizes the stave at the rammer head. With light guns the sponge and rammer are pressed home with one motion. When No. 3 has put in the charge, 2 introduces the rammer head, brings his left hand to his right, and forces the charge home in two motions (as in sponging), at the second motion throwing in the weight of his body, both arms extended as far as possible so as to keep his body clear of the muzzle. He then quits the stave, and brings his right foot to his left, so as to be clear of the muzzle, while No. 4 pricks the cartridge. Directly the cartridge is

pricked he springs the sponge by jerking it out with his right hand, stepping to the right, and allowing the stave to slide through his hand; he then grasps it firmly in the middle with the right hand, and at the rammer head with the left, both knees straight. Should the cartridge not be home he presses the charge home again, and quits the stave as before. When the cartridge is home he springs the sponge as above directed, and steps back outside the wheel, first with his right foot, then with his left, and brings the right heel to the left; he brings the sponge stave to the slope, and the left hand to the side in the first motion of stepping back, and remains facing the gun.

No. 3 slews his body to his right, and brings his hands together to receive the ammunition from 6, the cartridge in his right, the projectile in his left hand, backs of both hands down. As soon as the sponge is withdrawn he steps up to the muzzle, and puts in the ammunition, taking care that the choked end of the cartridge is next the projectile, and that the seam does not come under the vent; he then steps back to his former position. If firing shell he uncaps the fuze or removes the safety pin when the shell is in the bore. When shells are fuzed at the gun he receives them from No. 1.

No. 4 steps in, turns to his right, and places his left thumb on the vent, keeping his elbow raised, and his fingers on the left side of the gun, his right hand holding the pricker, which he has previously taken from the loop. When the gun is loaded he pricks the cartridge. Should the cartridge not be home, he says, "*Not home.*" If home, he replaces the pricker, and after No. 2 has sprung the sponge he places himself at once at the end of the handspike, and stands ready to traverse.

No. 5 takes the lanyard from his belt, and hooks a tube to it, holding the lanyard in the left, the tube in the right hand.

No. 6 doubles back and gets a round of ammunition from 8, taking the projectile in his right and the cartridge in his left hand, back of both hands up, choke end of cartridge against base of projectile, the cartridge covered by the right arm, carries them up and gives them to 3; he then returns to 8 for another round, and halts at his own station till the gun is fired. When shells are fuzed at the gun he hands them to No. 1, the cartridges to 3, and returns for ammunition.

No. 7 attends at the limber and issues ammunition When firing shells to be fuzed at the gun, he loosens the plug; if the shell is fuzed at the limber, he prepares and

fixes the fuze. He should take care that the limber box is open as short a time as possible.

No. 8 assists 7 and issues ammunition to 6, which he gets from 7, holding the cartridge in his right, and the projectile in his left hand, backs of both hands down, choke end of cartridge against base of projectile.

TO LAY THE GUN.

Officer.	*No.* 1.
	Trail (right).
	„ *(left).*
	Halt.

No. 1 looking over the sights, gives the necessary elevation with the elevating screw, and "*Trail Right or Left*" as required, then lowers the tangent scale.

No. 4 traverses with the handspike as directed.

TO MAKE READY AND FIRE.

Officer.	*No.* 1.
Fire one round.	*Ready.*
	Fire.
	Run up or back.
	Halt.

"*Ready,*" which No. 1 gives as soon as he has layed the gun, he steps clear of the wheel to that side where he can best observe the effect of his shot; 5 steps to the gun, and presses the tube into the vent with his right thumb; steps outside the wheel, shifts the lanyard to his right hand, and extends it looking to No. 1, keeping his hand level with the vent.

No. 4 resumes his position outside the wheel.

"*Fire.*"—No. 5 draws the lanyard strongly towards his body without a jerk, and replaces it under his belt.

In the event of a missfire, No. 5 will go round to the front of the axletree on his own side, and from there drop in another tube, keeping clear of the muzzle, resuming the position of "*Ready.*"

No. 4, after the gun has been fired, steps in and clears the vent.

As soon as the gun is fired, No. 1, if necessary, gives the order "*Run up.*" Nos. 2, 3, 4, and 5 man the wheels facing them, and turning them by means of the spokes, Nos. 1 and 6 lifting at the handspike. Should it be necessary to run the gun back, No. 1 gives "*Run back,*" when the same

numbers move the gun. At "*Halt,*" each number returns to his place.

TO UNLOAD.

Officer.	*No.* 1.
	Unload.

At drill as soon as the gun is fired No. 1 gives "*Unload.*"

Nos. 2 and 3 man the wheels.

Nos. 1, 4, and 5 raise the trail until the drill ammunition falls out.

No. 6 takes back the ammunition to the limber.

When using a shell with lanyard, No. 3 hauls out the projectile and than mans the wheel.

TO CEASE FIRING.

Officer.	*No.* 1.
Cease firing.	*Cease firing.*

"*Cease firing.*"—No. 1 unships the handspike and buckles it on the trail, setting the scales at zero.

No. 2 throws the sponge over to 4, and turns to his right.

No. 3 turns to his left.

No. 4 receives the sponge from 2, putting the rammer head through the iron loop, and buckles the stave on the trail, and resumes his position outside the wheel turning to the front.

No. 5 turns to his left, and replaces the lanyard in the tube pocket.

No. 6 gives his ammunition to 8, and falls into his place.

No. 7 replaces ammunition. If shells have been prepared, he removes the fuzes, replacing them in their boxes, having previously inserted the safety pin into the percussion fuze, and screws the metal plug into the shell.

No. 8 assists 7.

TO CHANGE ROUNDS IN ACTION.

Officer.	*No.* 1.
Change rounds.	*Change rounds.*

In changing rounds, No. 2 becomes 4, 4 9, 9 7, 7 8, 8 6, 6 1, 1 5, 5 3, 3 2.

TO LIMBER UP.

Officer.	*No.* 1.
Front, limber up.	*Front, limber up.*
(*Right*) ,,	(*Right*) ,,
(*Left*) ,,	(*Left*) ,,
(*Rear*) ,,	(*Rear*) ,,
	Halt, limber up.

Limbering up may be done either to the front, rear, right, or left.

"*Front Limber up.*"—No. 4 places himself at the trail eye, No. 1 on his left, 5 on the left of No. 1, they lift the end of the trail, carry it round a half circle to the right, and lower it gently to the ground. Nos. 2 and 3 man the wheels, if necessary assisted by 6 and 7. As soon as the trail is round, Nos. 2 and 3 get under cover between the muzzle and the wheels; 4 and 5 between the breech and the wheels; 6 and 7 in front of 4 and 5; the whole with their backs to the axletree. The limber comes up on the right of the gun, and when it is square, No. 1 gives "*Halt, Limber up,*" 4 and 5 lift the trail by the handles; 2, 3, 6, and 7 man the wheels. When the trail is on the hook, No. 5 keys, and the detachment forms the order of march.

"*Rear Limber up.*"—The Nos. perform the same duties, but the limber reverses to the left, as soon as it arrives at the trail, which is not thrown round. "*Right Limber up,*" is the same as "*Front Limber up,*" except that the trail is only carried round a quarter circle.

"*Left Limber up.*"—No. 5 places himself at the trail eye, No. 1 on his right, 4 on the right of No. 1; the trail is carried round a quarter circle to the left.

SECTION 2.—DRILL WITH R. B. L. ORDNANCE.

The detachment consists of one non-commissioned officer and eight gunners, and falls in two deep in rear of the gun, which is limbered up.

TO TELL OFF.

Officer.	*No.* 1.
Tell off.	

"*Tell off.*"—No. 1 (who is on the left of the detachment) takes a pace to his front, turns to his right, and numbers himself 1; the right-hand man of the front rank numbers 2;

the right-hand man of the rear rank 3; the second man from the right of the front rank 4; the man in his rear 5, and so on; after the detachment is told off No. 1 falls in again on the left of the front rank. No. 1 then straps on the fuze pocket on his right side, and 2 the tube pocket.

The front is that direction in which the gun is pointed when unlimbered, or to which, when limbered up, the horses' heads are turned.

POSITION OF DETACHMENT WHEN LIMBERED UP.

IN ORDER OF MARCH.

No. 1 in line with the point of the near shaft, and two yards on the left of it.

Nos. 2 and 3 in line with the axletree of the gun carriage.

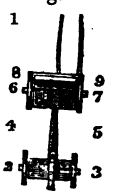
Nos. 4 and 5 in line with the centre of the trail.

Nos. 6 and 7 in line with the axletree of the limber.

Nos. 8 and 9 in line with the splinter bar.

The Nos. stand covering one yard from the wheels. (Fig. 1.)

Fig. 1.



IN FRONT.

Two deep two yards in front of the shafts.

IN REAR.

Two deep two yards in rear of the muzzle of the gun.

RIGHT OR LEFT.

Two deep in line with the gun axletree, one yard to the right or left of the wheel.

MOUNTED.

No. 1 on his horse; 2 and 3 on the gun limber; 4 and 5 on the wagon limber; 6 and 7 in front of and 8 and 9 in rear of the wagon body; 2, 4, 6, 8, on the off; 3, 5, 7, 9, on the near side.

EXERCISE WITH DRAG ROPES.

The same as at R. M. L. Ordnance.

TO ADVANCE WITHOUT DRAG ROPES.

The same as at R. M. L. Ordnance.

CHANGE OF POSITION OF DETACHMENTS.

The same as R.M.L. Ordnance.

TO UNLIMBER.

Officer.	*No.* 1.
Action front.	*Action front.*
„ (*right*).	„ (*right*).
„ (*left*).	„ (*left*).
„ (*rear*).	„ (*rear*).

"*Action front.*"—No. 2 unkeys; Nos. 1, 2, and 3 lift the trail, 2 and 3 next to the trail eye; 4 and 5 man the wheels. When the trail is clear No. 2 gives "*Limber drive on;*" the limber moves forward a yard, then reverses to the right, and the trail is carried round a half circle to the left, 3 shifting round the trail as soon as the limber makes room, to avoid walking backwards. The Nos. then place themselves as detailed for action. When the limber is sufficiently to the rear it reverses to the right, and halts ten yards in rear of the trail eye, covering the gun. The wagon reverses to the right, and when sufficiently to the rear reverses to the right again and halts, covering the limber.

"*Action rear,*" the gun is unlimbered by the same numbers as in "*Action front,*" but the trail is not thrown round; the limber moves forward one yard, inclines to its left, and then reverses to its right, halts 10 yards in rear of trail eye, covering the gun.

The wagon inclines to the left, moves to the rear, and forms up four yards in rear of the limber.

"*Action right*" is the same as "*Action front,*" but the trail is carried round a quarter of a circle only; the limber drives on one yard, then takes ground to its left, and reverses to its left. The wagon the same as the limber.

"*Action left,*" the trail is taken to the right. No. 2 shifting round the end of the trail as soon as the limber makes room, and the limber takes ground to its right, and reverses to its right.

In all unlimbering, except for action left, 3 should shift round the trail as soon as it is unhooked, so as to avoid walking backwards—at "*Action left*" 2 must do so.

When there are no horses, 6, 7, 8, and 9 attend the limber; No. 9 is between the shafts; 8 at the point of the near shaft; 7 at the point of the off shaft; and 6 in rear of the limber.

No. 1 is responsible for the correct dressing of his gun when it comes into action.

POSITION AND GENERAL DUTIES.

No. 1 stands on the right side of the gun, between the breech and wheel, points, commands, and bores and fixes fuzes when the shells are fuzed at the gun.

No. 2 stands on the left side of the gun, between the breech and wheel, screws up and unscrews the breech, puts in and takes out the vent-piece, makes ready and fires.

No. 3 stands one yard in rear of and covering the right wheel, ships and unships the handspike, withdraws safety pin of fuze, loads, and traverses with the handspike.

No. 4 stands one yard in rear of and covering the left wheel, sponges when necessary and rams home.

Fig. 3.

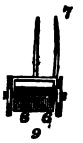
No. 5 stands five yards in rear of the right wheel, and supplies 3 with projectiles and cartridges from 7.

No. 6 stands in rear of the off limber box, bores and fixes fuzes when the shells are fuzed at the limber, prepares and serves out shell and cartridges to 7.

No. 7 stands ten yards in rear of 5, and supplies him with ammunition from 6.

No. 8 stands in rear of the near limber box, and assists 6.

No. 9 attends to the ammunition wagon, and refills the gun limber from it when necessary. (Fig. 3.)



GENERAL DUTIES WITH REDUCED NOS.

2 *Nos.*

No. 1 points, commands, serves ammunition, makes ready, and fires.

No. 2 sponges, rams home, takes out and puts in vent-piece, screws up, and unscrews the breech, traverses with handspike.

3 *Nos.*

No. 1 points, commands, makes ready, and fires.

No. 2 screws up and unscrews the breech, takes out and puts in the vent-piece, sponges, and rams home.

No. 3 serves ammunition, and traverses with the handspike.

4 *Nos.*

No. 1 points and commands.

No. 2 screws up and unscrews the breech, puts in and takes out the vent-piece, makes ready, and fires.

No. 3 serves ammunition, and traverses with the handspike when necessary.

No. 4 sponges and rams home.

5 *Nos.*

No. 1 points and commands; 2 screws up and unscrews the breech, takes out and puts in the vent-piece, makes ready, and fires; 3 loads and traverses; 4 sponges and rams home; 5 supplies ammunition.

6 *Nos.*

As with 5 Nos., except No. 6, who supplies 5 with ammunition from the limber.

7 *Nos.*

As with 5 Nos., in addition No. 6 supplies 7 with ammunition from the limber; 7 supplies ammunition from 6.

8 *Nos.*

As with 7 Nos., and No. 8 assisting 6 at the limber.

ACTION.

Officer.	*No.* 1.
Action.	*Action.*

The gun being unlimbered at the word "*Action*," No. 1 satisfies himself that the gun and its fittings are in good working order, and that the bore and vent are clear, then faces the gun.

No. 2 turns to his right, takes the lanyard out of his tube pocket, which is on his right side, puts it under his belt, then (when water is used) takes the plug out of the bucket.

No. 3 turns to his left, ships the handspike, and remains facing the trail one pace to the left of 1.

No. 4 turns to his right, takes an oblique pace to his left front, unbuckles the sponge, and remains facing the trail with the sponge stave in his right hand, sloping at 45°, rammer head on the ground to the rear.

No. 5 remains steady.

No. 6 prepares to issue ammunition.

No. 7 remains steady.

No. 8 assists 6.

LOAD.

Officer.	*No.* 1.
Range — yards. *With — Load.*	*With — Load.*

"*Load*," No. 1 communicates the directions which he receives from the officer as to the nature of the projectile to

be fired, by 5 to 6, and when time fuzes are used bores a fuze and inserts it in the shell brought to him by 5. When satisfied that the bore is clear he allows the loading to proceed, he adjusts the scale of elevation and deflection, and as soon as the gun is loaded lays it as laid down at page 213. If the shell is to be fuzed at the gun, No. 1 will receive it from 5, and hand it to 3.

No. 2 unscrews the breech with his right hand, back down, forcing the lever from him, takes out the vent-piece with his left hand, and cleans it. As soon as the gun is loaded, drops the vent-piece into the slot, face to the front, removes his left hand, screws up the breech with his right, back up, giving the cam two taps with the lever. He then removes the lanyard from his belt, hooks on a tube, back of the hook down, and holds the tube in his right hand, the lanyard in his left.

No. 3 receives a shell from 5, withdraws the safety pin of fuze, and places the shell in the bore, the point to the front. He then receives a cartridge from 5, and when the shell has been rammed home he places it in the bore, choked end to the front, and falls back to the end of the handspike ready to traverse.

No. 4, when sponging is required, brings the sponge horizontal, the left hand back under, the right hand back up, and the sponge head to the front; takes a pace to the left with his left foot, puts the sponge into the bucket, then sponges out the gun thoroughly, and withdraws the sponge, keeping it horizontal while No. 1 examines the bore. He then reverses the sponge, places the rammer head against the base of the shell, slips the left hand to the right, sees that the stave is in prolongation of the axis of the gun, and forces the shell into the chamber. The drill shot should be projected about three yards from the muzzle when the axis of the gun is horizontal. He then springs the stave, and as soon as No. 3 has put in the cartridge presses it gently home, withdraws the stave, brings it to the slope as before, and steps to the rear clear of the wheel.

No. 5 doubles back and gets a round of ammunition from 7, taking the shell in his right hand, point to the left, and the cartridge in his left hand, back of both hands up, the cartridge covered by his right arm; places himself on the left of 3, gives him first the shell and then the cartridge; he then returns to 7 for another round, and halts at his own station till the gun is fired.

No. 6 attends at the limber and issues ammunition. When firing shells to be fuzed at the gun, he loosens the

plugs, if the shell is fuzed at the limber he prepares and fixes the fuze; he is assisted by 8, and should take care that the limber box is open as short a time as possible.

No. 7 doubles to the limber and gets a round of ammunition from 6, shell in his left hand, cartridge in his right, backs of both hands down, the cartridge covered by his left arm, carries them up and gives them to 5; he then returns to 6 for another round, and halts at his own station till the gun is fired.

TO LAY THE GUN.

Officer.	*No.* 1.
	Trail (right).
	„ *(left).*
	Halt.

No. 1 looking over the sights gives the necessary elevation with the elevating screw, and "*Trail right or left*" as required, using the traversing screw himself for final adjustment, then lowers the tangent scale.

No. 3 traverses with the handspike as directed.

TO MAKE READY AND FIRE.

Officer.	*No.* 1.
Fire one round.	*Ready.*
	Fire.
	Run up or back.
	Halt.

"*Ready,*" which No. 1 gives as soon as the laying is complete, he steps clear of the wheel to that side where he can best observe the effect of his shot, 3 also steps clear of the recoil and resumes his position at the gun after firing.

No. 2 steps to the gun, and presses the tube into the vent with his right thumb; steps outside the wheel, shifts the lanyard to his right hand, and extends it, looking to No. 1, and keeping his hand level with the vent.

"*Fire,*" No. 2 draws the lanyard strongly towards his body without a jerk, and replaces it under his belt.

As soon as the gun is fired, No. 1, if necessary, gives "*Run up,*" Nos. 1 and 2 push at the axletree, 4 and 5 man the wheels facing them, 3 lifting at the handspike; should it be necessary to run the gun back, No. 1 gives "*Run back,*" when the same numbers move the gun. At "*Halt,*" each number resumes his place.

In the event of a miss-fire a second tube will be inserted as with R.M.L. guns; if this again fails, and it is necessary to take out the vent-piece, time must be allowed to elapse before the breech-screw is unscrewed, and then the vent-piece removed quickly, the arm and body being kept clear of the breech.

TO CEASE FIRING.

Officer.	*No.* 1.
Cease firing.	*Cease firing.*

"*Cease firing,*" No. 1 places the traversing bar in the centre of the carriage, the scales at zero.

No. 2 replaces the plug in the bucket (if water has been used), the lanyard in the tube pocket.

No. 3 unships the handspike and buckles it on the trail.

No. 4 buckles the sponge on the trail.

No. 5 doubles to the rear with his ammunition to 7.

No. 7 gives his own ammunition, and then that of 5 to 6.

No. 6 replaces the ammunition in the limber box, assisted by 8. If a shell has been prepared he removes the fuzes, replaces them in their respective boxes, having previously inserted the safety pins, and screws the metal plug into the shell.

The whole of the numbers resume their places at the gun, facing to the front.

TO CHANGE ROUNDS IN ACTION.

Officer.	*No.* 1.
Change rounds.	*Change rounds.*

In changing rounds, No. 1 becomes 3, 3 5, 5 7, 7 9, 9 8, 8 6, 6 4, 4 2, 2 1. No. 2 changes by the front.

TO LIMBER UP.

Officer.	*No.* 1.
Front limber up.	*Front limber up.*
(*Right*) „	(*Right*) „
(*Left*) „	(*Left*) „
(*Rear*) „	(*Rear*) „
	Halt, Limber up.

"*Front Limber up,*" No. 1 places himself at the trail eye, 3 on his left, 2 on the left of 3; they lift the end of the trail, carry it round half a circle to the right, and lower it gently to the ground. Nos. 4 and 5 man the

wheels. As soon as the trail is round, Nos. 2 and 3 get under cover between the breech and the wheels; 4 and 5 between the muzzle and the wheels; the whole with their backs to the axletree. The limber comes up on the right of the gun; and when it is square No. 1 gives "*Halt, Limber up.*" Nos. 2 and 3 lift the trail by the handles; 4 and 5 man the wheels. When the trail is on the hook, No. 2 keys, and the detachment forms the order of march.

"*Rear Limber up,*" the Nos. perform the same duties, but the limber reverses to the left as soon as it arrives at the trail, which is not thrown round.

"*Right Limber up*" is the same as "*Front Limber up,*" except that the trail is only carried round a quarter circle.

"*Left Limber up,*" No. 2 places himself at the trail eye, 3 on his right, No. 1 on the right of 3; the trail is carried round a quarter circle to the left.

SECTION 3.—MOUNTING AND DISMOUNTING FIELD ORDNANCE.

Guns of 9 cwt. can be mounted and dismounted by their own detachments; it facilitates the operation with heavier guns to have a few additional Nos.

When from the length of the gun the trail cannot be raised sufficiently high to bring the gun perpendicular, and so clear the trunnion holes, a hole must be dug to receive the muzzle.

TO DISMOUNT GUN AND CARRIAGE.

Officer.	*No.* 1.
Prepare to dismount gun and carriage.	*Prepare to dismount gun.*
Dismount the gun.	*Dismount the gun.*
	Lower the trail.
	Run back.
	Lower the gun.
Dismount the carriage.	*Dismount the carriage.*
	Lift.

Prepare to dismount gun and carriage."—No. 1 removes or turns down the elevating screw and removes tangent sights; 4 and 5 attach a drag rope to the cascable by an overhand knot in the centre, passing the ends to the front (with B.L. guns the knot is placed in front of the tappet-ring, round the breech screw, and 2 removes the sponge bucket, placing it five yards to the left of the gun), 4 removes the sponges and

numbers move the gun. At "*Halt,*" each number returns to his place.

TO UNLOAD.

Officer.	*No.* 1.
	Unload.

At drill as soon as the gun is fired No. 1 gives "*Unload.*"

Nos. 2 and 3 man the wheels.

Nos. 1, 4, and 5 raise the trail until the drill ammunition falls out.

No. 6 takes back the ammunition to the limber.

When using a shell with lanyard, No. 3 hauls out the projectile and than mans the wheel.

TO CEASE FIRING.

Officer.	*No.* 1.
Cease firing.	*Cease firing.*

"*Cease firing.*"—No. 1 unships the handspike and buckles it on the trail, setting the scales at zero.

No. 2 throws the sponge over to 4, and turns to his right.

No. 3 turns to his left.

No. 4 receives the sponge from 2, putting the rammer head through the iron loop, and buckles the stave on the trail, and resumes his position outside the wheel turning to the front.

No. 5 turns to his left, and replaces the lanyard in the tube pocket.

No. 6 gives his ammunition to 8, and falls into his place.

No. 7 replaces ammunition. If shells have been prepared, he removes the fuzes, replacing them in their boxes, having previously inserted the safety pin into the percussion fuze, and screws the metal plug into the shell.

No. 8 assists 7.

TO CHANGE ROUNDS IN ACTION.

Officer.	*No.* 1.
Change rounds.	*Change rounds.*

In changing rounds, No. 2 becomes 4, 4 9, 9 7, 7 8, 8 6, 6 1, 1 5, 5 3, 3 2.

TO LIMBER UP.

Officer.	*No.* 1.
Front, limber up.	*Front, limber up.*
(*Right*) ,,	(*Right*) ,,
(*Left*) ,,	(*Left*) ,,
(*Rear*) ,,	(*Rear*) ,,
	Halt, limber up.

Limbering up may be done either to the front, rear, right, or left.

"*Front Limber up.*"—No. 4 places himself at the trail eye, No. 1 on his left, 5 on the left of No. 1, they lift the end of the trail, carry it round a half circle to the right, and lower it gently to the ground. Nos. 2 and 3 man the wheels, if necessary assisted by 6 and 7. As soon as the trail is round, Nos. 2 and 3 get under cover between the muzzle and the wheels; 4 and 5 between the breech and the wheels; 6 and 7 in front of 4 and 5; the whole with their backs to the axletree. The limber comes up on the right of the gun, and when it is square, No. 1 gives "*Halt, Limber up,*" 4 and 5 lift the trail by the handles; 2, 3, 6, and 7 man the wheels. When the trail is on the hook, No. 5 keys, and the detachment forms the order of march.

"*Rear Limber up.*"—The Nos. perform the same duties, but the limber reverses to the left, as soon as it arrives at the trail, which is not thrown round. "*Right Limber up,*" is the same as "*Front Limber up,*" except that the trail is only carried round a quarter circle.

"*Left Limber up.*"—No. 5 places himself at the trail eye, No. 1 on his right, 4 on the right of No. 1; the trail is carried round a quarter circle to the left.

SECTION 2.—DRILL WITH R. B. L. ORDNANCE.

The detachment consists of one non-commissioned officer and eight gunners, and falls in two deep in rear of the gun, which is limbered up.

TO TELL OFF.

Officer.	*No.* 1.
Tell off.	

"*Tell off.*"—No. 1 (who is on the left of the detachment) takes a pace to his front, turns to his right, and numbers himself 1; the right-hand man of the front rank numbers 2;

the right-hand man of the rear rank 3; the second man from the right of the front rank 4; the man in his rear 5, and so on; after the detachment is told off No. 1 falls in again on the left of the front rank. No. 1 then straps on the fuze pocket on his right side, and 2 the tube pocket.

The front is that direction in which the gun is pointed when unlimbered, or to which, when limbered up, the horses' heads are turned.

POSITION OF DETACHMENT WHEN LIMBERED UP.

IN ORDER OF MARCH.

No. 1 in line with the point of the near shaft, and two yards on the left of it.

Nos. 2 and 3 in line with the axletree of the gun carriage.

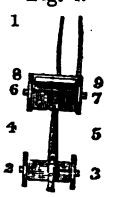
Nos. 4 and 5 in line with the centre of the trail.

Nos. 6 and 7 in line with the axletree of the limber.

Nos. 8 and 9 in line with the splinter bar.

The Nos. stand covering one yard from the wheels. (Fig. 1.)

Fig. 1.



IN FRONT.

Two deep two yards in front of the shafts.

IN REAR.

Two deep two yards in rear of the muzzle of the gun.

RIGHT OR LEFT.

Two deep in line with the gun axletree, one yard to the right or left of the wheel.

MOUNTED.

No. 1 on his horse; 2 and 3 on the gun limber; 4 and 5 on the wagon limber; 6 and 7 in front of and 8 and 9 in rear of the wagon body; 2, 4, 6, 8, on the off; 3, 5, 7, 9, on the near side.

EXERCISE WITH DRAG ROPES.

The same as at R. M. L. Ordnance.

TO ADVANCE WITHOUT DRAG ROPES.

The same as at R. M. L. Ordnance.

CHANGE OF POSITION OF DETACHMENTS.

The same as R.M.L. Ordnance.

TO UNLIMBER.

Officer.	*No.* 1.
Action front.	*Action front.*
„ (*right*).	„ (*right*).
„ (*left*).	„ (*left*).
„ (*rear*).	„ (*rear*).

"*Action front.*"—No. 2 unkeys; Nos. 1, 2, and 3 lift the trail, 2 and 3 next to the trail eye; 4 and 5 man the wheels. When the trail is clear No. 2 gives "*Limber drive on;*" the limber moves forward a yard, then reverses to the right, and the trail is carried round a half circle to the left, 3 shifting round the trail as soon as the limber makes room, to avoid walking backwards. The Nos. then place themselves as detailed for action. When the limber is sufficiently to the rear it reverses to the right, and halts ten yards in rear of the trail eye, covering the gun. The wagon reverses to the right, and when sufficiently to the rear reverses to the right again and halts, covering the limber.

"*Action rear,*" the gun is unlimbered by the same numbers as in "*Action front,*" but the trail is not thrown round; the limber moves forward one yard, inclines to its left, and then reverses to its right, halts 10 yards in rear of trail eye, covering the gun.

The wagon inclines to the left, moves to the rear, and forms up four yards in rear of the limber.

"*Action right*" is the same as "*Action front,*" but the trail is carried round a quarter of a circle only; the limber drives on one yard, then takes ground to its left, and reverses to its left. The wagon the same as the limber.

"*Action left,*" the trail is taken to the right. No. 2 shifting round the end of the trail as soon as the limber makes room, and the limber takes ground to its right, and reverses to its right.

In all unlimbering, except for action left, 3 should shift round the trail as soon as it is unhooked, so as to avoid walking backwards—at "*Action left*" 2 must do so.

When there are no horses, 6, 7, 8, and 9 attend the limber; No. 9 is between the shafts; 8 at the point of the near shaft; 7 at the point of the off shaft; and 6 in rear of the limber.

No. 1 is responsible for the correct dressing of his gun when it comes into action.

POSITION AND GENERAL DUTIES.

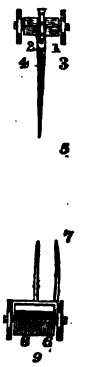
No. 1 stands on the right side of the gun, between the breech and wheel, points, commands, and bores and fixes fuzes when the shells are fuzed at the gun.

No. 2 stands on the left side of the gun, between the breech and wheel, screws up and unscrews the breech, puts in and takes out the vent-piece, makes ready and fires.

No. 3 stands one yard in rear of and covering the right wheel, ships and unships the handspike, withdraws safety pin of fuze, loads, and traverses with the handspike.

No. 4 stands one yard in rear of and covering the left wheel, sponges when necessary and rams home.

Fig. 3.



No. 5 stands five yards in rear of the right wheel, and supplies 3 with projectiles and cartridges from 7.

No. 6 stands in rear of the off limber box, bores and fixes fuzes when the shells are fuzed at the limber, prepares and serves out shell and cartridges to 7.

No. 7 stands ten yards in rear of 5, and supplies him with ammunition from 6.

No. 8 stands in rear of the near limber box, and assists 6.

No. 9 attends to the ammunition wagon, and refills the gun limber from it when necessary. (Fig. 3.)

GENERAL DUTIES WITH REDUCED NOS.

2 *Nos.*

No. 1 points, commands, serves ammunition, makes ready, and fires.

No. 2 sponges, rams home, takes out and puts in vent-piece, screws up, and unscrews the breech, traverses with handspike.

3 *Nos.*

No. 1 points, commands, makes ready, and fires.

No. 2 screws up and unscrews the breech, takes out and puts in the vent-piece, sponges, and rams home.

No. 3 serves ammunition, and traverses with the handspike.

4 *Nos.*

No. 1 points and commands.

No. 2 screws up and unscrews the breech, puts in and takes out the vent-piece, makes ready, and fires.

No. 3 serves ammunition, and traverses with the handspike when necessary.

No. 4 sponges and rams home.

5 *Nos.*

No. 1 points and commands; 2 screws up and unscrews the breech, takes out and puts in the vent-piece, makes ready, and fires; 3 loads and traverses; 4 sponges and rams home; 5 supplies ammunition.

6 *Nos.*

As with 5 Nos., except No. 6, who supplies 5 with ammunition from the limber.

7 *Nos.*

As with 5 Nos., in addition No. 6 supplies 7 with ammunition from the limber; 7 supplies ammunition from 6.

8 *Nos.*

As with 7 Nos., and No. 8 assisting 6 at the limber.

ACTION.

Officer.	*No.* 1.
Action.	*Action.*

The gun being unlimbered at the word "*Action,*" No. 1 satisfies himself that the gun and its fittings are in good working order, and that the bore and vent are clear, then faces the gun.

No. 2 turns to his right, takes the lanyard out of his tube pocket, which is on his right side, puts it under his belt, then (when water is used) takes the plug out of the bucket.

No. 3 turns to his left, ships the handspike, and remains facing the trail one pace to the left of 1.

No. 4 turns to his right, takes an oblique pace to his left front, unbuckles the sponge, and remains facing the trail with the sponge stave in his right hand, sloping at 45°, rammer head on the ground to the rear.

No. 5 remains steady.

No. 6 prepares to issue ammunition.

No. 7 remains steady.

No. 8 assists 6.

LOAD.

Officer.	*No.* 1.
Range — yards. *With — Load.*	*With — Load.*

"*Load,*" No. 1 communicates the directions which he receives from the officer as to the nature of the projectile to

be fired, by 5 to 6, and when time fuzes are used bores a fuze and inserts it in the shell brought to him by 5. When satisfied that the bore is clear he allows the loading to proceed, he adjusts the scale of elevation and deflection, and as soon as the gun is loaded lays it as laid down at page 213. If the shell is to be fuzed at the gun, No. 1 will receive it from 5, and hand it to 3.

No. 2 unscrews the breech with his right hand, back down, forcing the lever from him, takes out the vent-piece with his left hand, and cleans it. As soon as the gun is loaded, drops the vent-piece into the slot, face to the front, removes his left hand, screws up the breech with his right, back up, giving the cam two taps with the lever. He then removes the lanyard from his belt, hooks on a tube, back of the hook down, and holds the tube in his right hand, the lanyard in his left.

No. 3 receives a shell from 5, withdraws the safety pin of fuze, and places the shell in the bore, the point to the front. He then receives a cartridge from 5, and when the shell has been rammed home he places it in the bore, choked end to the front, and falls back to the end of the handspike ready to traverse.

No. 4, when sponging is required, brings the sponge horizontal, the left hand back under, the right hand back up, and the sponge head to the front; takes a pace to the left with his left foot, puts the sponge into the bucket, then sponges out the gun thoroughly, and withdraws the sponge, keeping it horizontal while No. 1 examines the bore. He then reverses the sponge, places the rammer head against the base of the shell, slips the left hand to the right, sees that the stave is in prolongation of the axis of the gun, and forces the shell into the chamber. The drill shot should be projected about three yards from the muzzle when the axis of the gun is horizontal. He then springs the stave, and as soon as No. 3 has put in the cartridge presses it gently home, withdraws the stave, brings it to the slope as before, and steps to the rear clear of the wheel.

No. 5 doubles back and gets a round of ammunition from 7, taking the shell in his right hand, point to the left, and the cartridge in his left hand, back of both hands up, the cartridge covered by his right arm; places himself on the left of 3, gives him first the shell and then the cartridge; he then returns to 7 for another round, and halts at his own station till the gun is fired.

No. 6 attends at the limber and issues ammunition. When firing shells to be fuzed at the gun, he loosens the

plugs, if the shell is fuzed at the limber he prepares and fixes the fuze; he is assisted by 8, and should take care that the limber box is open as short a time as possible.

No. 7 doubles to the limber and gets a round of ammunition from 6, shell in his left hand, cartridge in his right, backs of both hands down, the cartridge covered by his left arm, carries them up and gives them to 5; he then returns to 6 for another round, and halts at his own station till the gun is fired.

TO LAY THE GUN.

Officer.	*No.* 1.
	Trail (right).
	„ *(left).*
	Halt.

No. 1 looking over the sights gives the necessary elevation with the elevating screw, and "*Trail right or left*" as required, using the traversing screw himself for final adjustment, then lowers the tangent scale.

No. 3 traverses with the handspike as directed.

TO MAKE READY AND FIRE.

Officer.	*No.* 1.
Fire one round.	*Ready.*
	Fire.
	Run up or back.
	Halt.

"*Ready,*" which No. 1 gives as soon as the laying is complete, he steps clear of the wheel to that side where he can best observe the effect of his shot, 3 also steps clear of the recoil and resumes his position at the gun after firing.

No. 2 steps to the gun, and presses the tube into the vent with his right thumb; steps outside the wheel, shifts the lanyard to his right hand, and extends it, looking to No. 1, and keeping his hand level with the vent.

"*Fire,*" No. 2 draws the lanyard strongly towards his body without a jerk, and replaces it under his belt.

As soon as the gun is fired, No. 1, if necessary, gives "*Run up,*" Nos. 1 and 2 push at the axletree, 4 and 5 man the wheels facing them, 3 lifting at the handspike; should it be necessary to run the gun back, No. 1 gives "*Run back,*" when the same numbers move the gun. At "*Halt,*" each number resumes his place.

EXPLANATION OF THE FIGURES USED IN THE PLATES.

The Front.

M Major.

C Captain.

S Subaltern officer.

⊥ Battery Serjeant-Major.

Q Quartermaster Serjeant.

● No. 1.

♁ Coverer.

F Farrier.

× Trumpeter.

O Staff Officer.

A Adjutant.

SM Brigade Serjeant-Major.

A gun limbered up.

 A detachment of Horse Artillery.

A wagon.

 A gun unlimbered.

The first positions are represented in black, the changes in red.

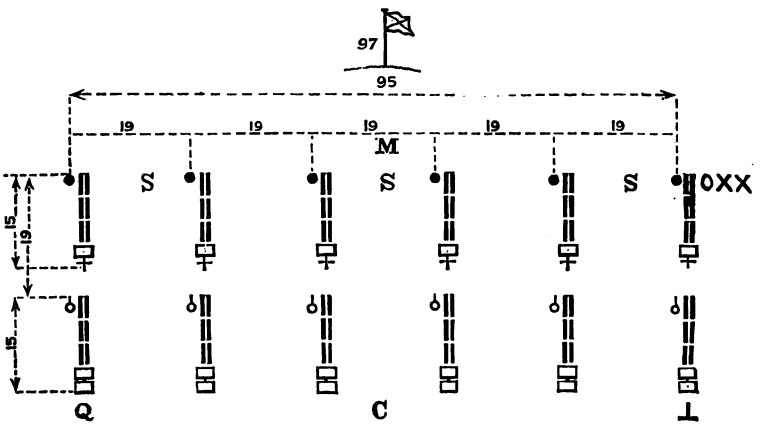
In plates of brigade movements a gun with its wagon is shown thus: —+—

Plates of a single battery are on a scale of 30 yards to an inch; of a brigade on a scale of 60 yards to an inch.

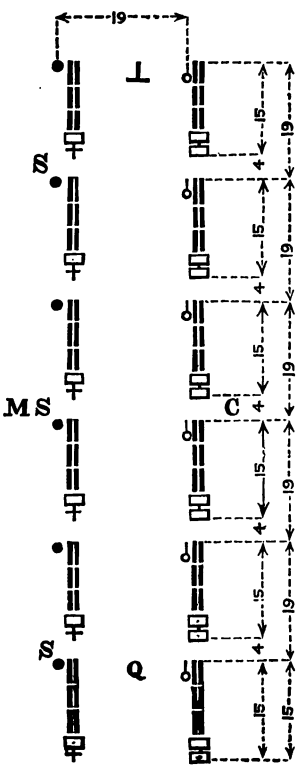
To face Page 245.

PLATE I.

Battery in Line full Interval.



Column of Subdivisions.



Column of Divisions.

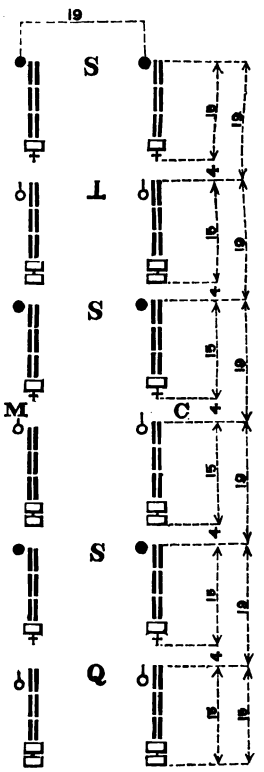


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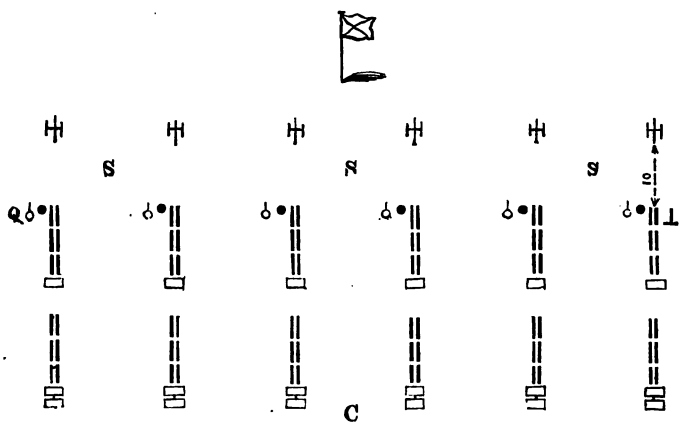
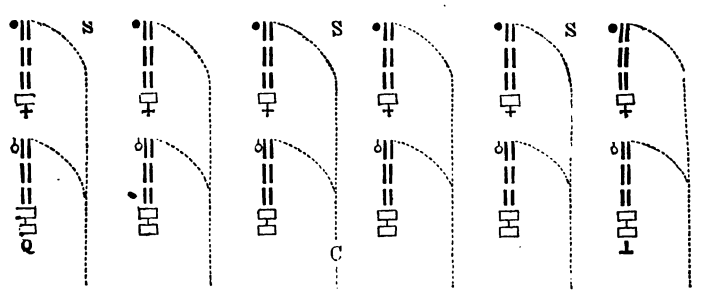
PLATE II.

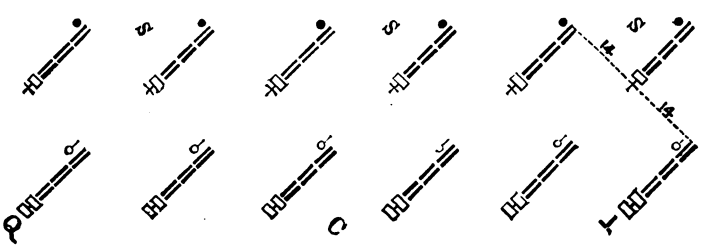
A BATTERY IN ACTION.



RIGHT REVERSE.



RIGHT INCLINE.



SECTION 7.—MANŒUVRES OF A BATTERY.

The following instructions are for a battery of six guns and six wagons, six horses in each carriage:—

MOVEMENTS FROM LINE.

No. 1.—FROM LINE TO COME INTO ACTION. (PLATE II.)

Commanding Officer.	Officers.	Nos. 1.
Action Front.		*Dismount.*

At the word "*Action Front*," given by the commanding officer and repeated by the officers, the Nos. 1 order their detachment to "*Dismount*," when the whole spring off the carriages, the coverers trot up on the near side of their Nos. 1 horses and lead them to the rear on the left of the leaders of the guns (should there be no coverers the centre drivers of guns lead the Nos. 1 horses to the rear); as soon as the trail is clear of the limber hook the Nos. 5 give the word "*Limber, Drive on*," and the limbers and wagons reverse as laid down in the instructions for drivers, and proceed to the rear dressing by the left, the gun leaders four yards from the tail-boards of the wagons, the staff-serjeants go to the rear with the limbers; the serjeant-major, when they are sufficiently to the rear, gives the command or signal "*Right Reverse*" to the whole, and halts them by command or signal when 10 yards from the trails of the guns.

When it is necessary for officers to dismount, their horses will be held by the coverers of Nos. 1, 3, and 5 on their near side.

The guns are dressed by the captain on the gun of direction.

No. 2.—FROM LINE TO ADVANCE.

Commanding Officer.	Officers.	Nos. 1.
The Battery will advance —March.		

When advancing in line, the No. 1 of the subdivision of direction will take up points on which to march, the other Nos. 1 taking their intervals from, and dressing by him.

No. 3.—FROM LINE TO RETIRE.

Commanding Officer.	Officers.	Nos. 1.
Right reverse—March.		

Officers and staff serjeants turn about on their own ground. Nos. 1. and coverers turn about with their subdivisions.

In the absence of coverers, the Nos 1. take their places. The subaltern officers remain between their guns.

No 4.—From Line to take Ground to a Flank.

Commanding Officer.	Officers.	Nos. 1.
Right (or Left) take ground—March.		

At the word "*March,*" each carriage wheels—officers and staff serjeants shift to their places in column of subdivisions.

No. 5.—From Line to Incline.

Commanding Officer.	Officers.	Nos. 1.
Right (or Left) Incline—March.		

At the word "*March,*" No. 1 subdivision must be careful to make the incline correctly; the lead driver of No. 2 dresses on the axletree of No. 1 gun, 14 yards distant; the lead driver of 3 dresses on the axletree of 2 gun, and so on.

The lead driver of No. 1 wagon dresses by his left on the axletree of 1 gun, and 14 yards from it; the lead driver of 2 wagon dresses on the axletree of 1 wagon body, and covers 1 gun, and so on.

"*Left Incline*" is done on the same principle.

To resume the original direction the word is "*Forward.*"

No. 6.—From Line to Diminish (or Increase) Intervals on the Move.

Commanding Officer.	Officers.	Nos. 1.
(To diminish.) *Half (or Close) Interval on—Subdivision.* (To increase:) *Half (or Full) Interval on—Subdivision.*		*Right (or Left) Incline—Trot—Forward—Walk* (except No. 1 of the named Subdivision).

The commanding officer names the subdivision on which the formation is to be made.

Should it be required to form diminished interval from the halt, the named subdivision stands fast, the remaining subdivisions reverse to the right.

No. 7.—FROM LINE TO ADVANCE IN COLUMN OF SUBDIVISIONS FROM A FLANK.

Commanding Officer.	Officers.	Nos. 1.
Advance in Column of Subdivisions from the Right—March.	Of Centre and Left Divisions — *Right take ground.*	Of 1—*Advance—Wagon Right.* Of 2—*Right take Ground.* Of 2, 3, 4, 5, and 6—*Left Wheel—Forward.*

The wagon of No. 1 trots up to the right of its gun at the word "*March.*"

The remainder take ground to the right, and wheel when in rear of No. 1.

No. 8.—FROM LINE TO ADVANCE IN COLUMN OF DIVISIONS OR HALF BATTERIES FROM A FLANK.

Commanding Officer.	Officers.	Nos. 1.
Advance in Column of Divisions—from the Right—March.	Of Right Division—*Advance.* Of Centre and Left Divisions—*Right take Ground—Left take Ground.*	Of 2—*Wagon Right—Wagon Rear.* Of 4—*Wagon Right—Wagon Rear.*

At the word "*March,*" the right division advances, and the wagon of the pivot subdivision moves up on the right of its gun, that it may not impede the march of the other divisions, it resumes its place as soon as possible. The centre and left divisions take ground to the right; and, when they arrive in rear of the right division, each division takes ground to the front in succession, the pivot wagon of the centre division moving up as described for that of the leading division.

In advancing from the right in column of half batteries, the left half battery proceeds as detailed for the centre division.

No. 9.—FROM LINE TO ADVANCE IN ECHELLON OF SUBDIVISIONS FROM A FLANK.

Commanding Officer.	Officers.	Nos. 1.
Advance in Echellon of Subdivisions—from the Right—March.		In succession—*Advance—March.*

At the word "*March,*" No. 1 subdivision advances; the other subdivisions in succession, at subdivision distance.

A battery in echellon of subdivisions, if required to change its front when in action, does so at the words "*Action Left (or Right)*," by throwing the trails round, and bringing the guns into the new direction; the limbers and wagons forming in rear of their guns.

No. 10.—From Line to Advance in Echellon of Divisions or Half Batteries from a Flank.

Commanding Officer.	Officers.	Nos. 1.
Advance in Echellon of Divisions — from the Right—March.	(In succession) — *Advance—March.*	

At the word "*March,*" the right division advances; the others in succession, at division distance.

In advancing from the right in echellon of half batteries, the left half battery proceeds as detailed for the centre division.

No. 11.—From Line to Advance in Double Column from the Centre.

Commanding Officer.	Officers.	Nos. 1.
Advance in Double Column from the Centre —March.	Of Centre Division— *Advance.* Of Right Division— *Left take Ground—March.* Of Left Division — *Right take Ground—March.*	Of 2 and 1—*Right take Ground.* Of 5 and 6—*Left take Ground.*

At the word "*March,*" the centre division advances. As soon as it has advanced 19 yards, the flank divisions take ground inwards, by word of command from the divisional officers.

As Nos. 2 and 5 come in rear of the column, they take ground to the front, by word of command from their Nos. 1. The flank subdivisions move at a reduced pace, till the wagons of 2 and 5 have passed to the front; they then take ground to the front, by word of command from their Nos. 1.

The staff serjeants in rear of wagons of 1 and 6; the captain in rear of the centre.

If it is intended to form line to the right, the commanding officer gives the word "*Right directs.*"

No. 12.—FROM LINE TO RETIRE IN COLUMN OF DIVISIONS OR HALF BATTERIES FROM A FLANK.

Commanding Officer.	Officers.	Nos. 1.
Retire in Column of Divisions from the Right —March.	Of Right Division— *Right Reverse.* Of Centre and Left Divisions — *Right take Ground—Right take Ground.*	Of 2—*Gun Left—Gun Rear.* Of 4—*Gun Left—Gun Rear.*

At the word "*March,*" the named division reverses to the right, and proceeds to the rear; its outer gun moves up on the left of its wagon, that it may not impede the march of the other divisions; and resumes its place as soon as possible. The other divisions take ground towards the named flank, the outer gun of the centre division moving up, as described for that of the named division.

In retiring from the right in column of half batteries, the left half battery proceeds as detailed for the centre division.

To retire from the left, the whole of the subdivisions are reversed to the right by the Commanding Officer, and advanced from the right in column of divisions.

No. 13.—FROM LINE TO RETIRE BY ALTERNATE HALF BATTERIES IN ACTION FROM A FLANK.

When a battery in line, in action, is ordered to retire from a flank by alternate half batteries, the whole of the wagons and limbers come up and reverse as for limbering up to the rear, the named half battery limbers up at once and retires on its marker, who will have taken up any distance that may be ordered in rear of its inward flank; the other half battery remains in action, the limbers four yards from the trails ready to limber up, and retire as soon as the named half battery is halted for action.

The senior officer of each half battery gives the word of command.

When the command "*Form line*" is given, line is formed on the rear half battery, the limbers and wagons of which at once take their usual position in action.

If the half battery to retire is not specified, the left retires.

Note.—At field days when ammunition is to be used, the limber boxes are not to be opened, but two or three cartridges are to be temporarily placed in one of the axletree boxes for use, when the limbers are in such close proximity to the guns.

No. 14.—From Line to Retire in a Double Column from the Centre.

In order to perform this manœuvre, the battery should be reversed, and then (with wagons leading) it is performed in the same manner as the advance from the centre, in a double column.

No. 15.—From Line to Change Front to the Rear.

Commanding Officer.	Officers.	Nos. 1.
Change Front to the Rear —March.	Of Centre Division—*Subdivisions Inwards about Wheel—Halt.* Of Right Division—*Advance—Left Wheel — Forward — Left Wheel — Forward — Halt.* Of Left Division—*Advance—Right Wheel — Forward — Right Wheel — Forward — Halt.*	Of 3—*Advance—Right Shoulders.* Of 4—*Left Shoulders.*

The serjeant-major places himself in rear of No. 3 subdivision. The quartermaster-serjeant takes up a distant point beyond where the right flank will rest, when the new formation is complete. The captain dresses the markers from the right of the serjeant-major.

At the word "*March,*" the centre division wheels about inwards and halts in its place. The others advance four yards, wheel inwards, pass each other by sub-divisions bridle-hand to bridle-hand, and again wheel up into their places in line.

No. 16.—From Line to Change Front to the Rear when at Diminished Intervals.

Commanding Officer.	Officers.	Nos. 1.
Change Front to the Rear —March—Half Batteries Inwards about Wheel.	Of Right Half Battery—*Left about Wheel—Forward—Halt.* Of Left Half Battery—*Halt — Right about Wheel — March — Forward—Halt.*	

At the word "*March,*" the battery advances two horses' lengths, the left half battery halts, the right moves forward, and as soon as it is sufficiently advanced to enable the left half battery to wheel, the whole wheel about inwards, and incline to the centre, the right half battery coming up at an increased pace.

The markers as in the preceding movement.

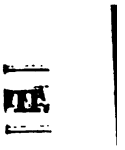


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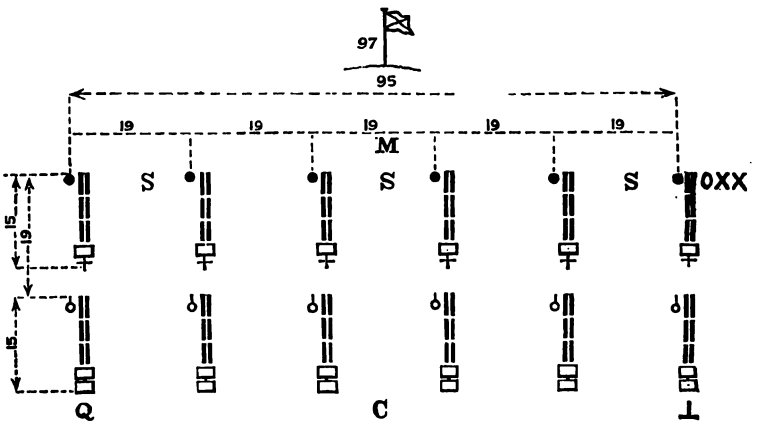
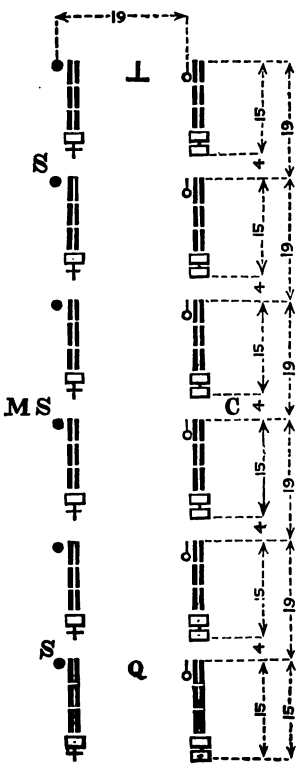
PLATE I.

Battery in Line full Interval.



Column of Subdivisions.



Column of Divisions.

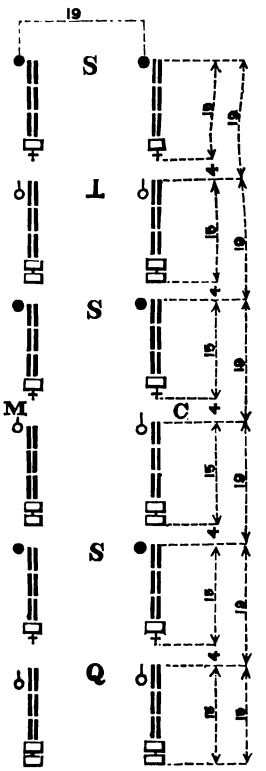


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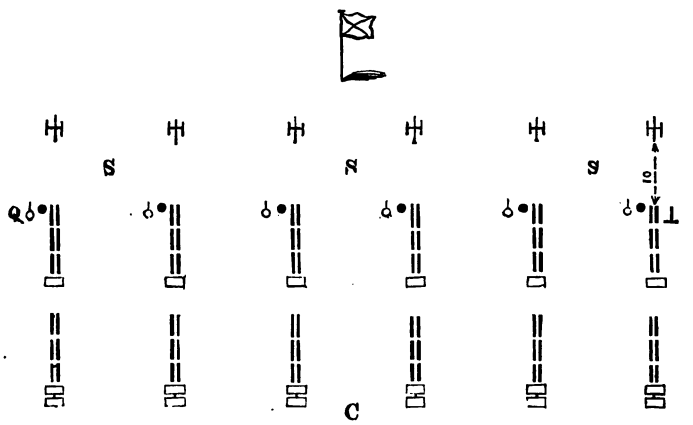
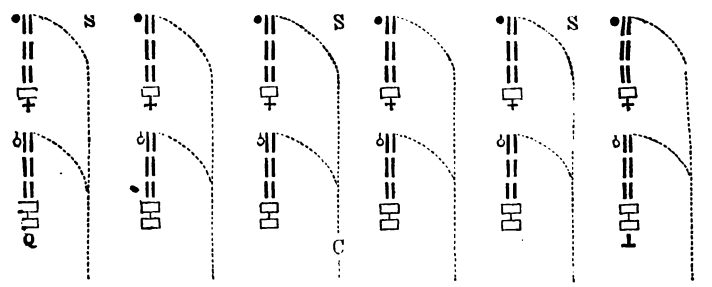
PLATE II.

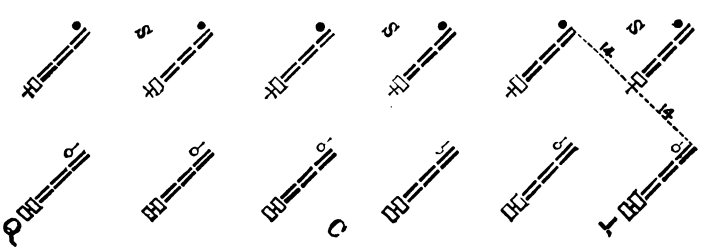
A BATTERY IN ACTION.



RIGHT REVERSE.



RIGHT INCLINE.



SECTION 7.—MANŒUVRES OF A BATTERY.

The following instructions are for a battery of six guns and six wagons, six horses in each carriage:—

MOVEMENTS FROM LINE.

No. 1.—FROM LINE TO COME INTO ACTION. (PLATE II.)

Commanding Officer.	Officers.	Nos. 1.
Action Front.		*Dismount.*

At the word "*Action Front*," given by the commanding officer and repeated by the officers, the Nos. 1 order their detachment to "*Dismount*," when the whole spring off the carriages, the coverers trot up on the near side of their Nos. 1 horses and lead them to the rear on the left of the leaders of the guns (should there be no coverers the centre drivers of guns lead the Nos. 1 horses to the rear); as soon as the trail is clear of the limber hook the Nos. 5 give the word "*Limber, Drive on*," and the limbers and wagons reverse as laid down in the instructions for drivers, and proceed to the rear dressing by the left, the gun leaders four yards from the tail-boards of the wagons, the staff-serjeants go to the rear with the limbers; the serjeant-major, when they are sufficiently to the rear, gives the command or signal "*Right Reverse*" to the whole, and halts them by command or signal when 10 yards from the trails of the guns.

When it is necessary for officers to dismount, their horses will be held by the coverers of Nos. 1, 3, and 5 on their near side.

The guns are dressed by the captain on the gun of direction.

No. 2.—FROM LINE TO ADVANCE.

Commanding Officer.	Officers.	Nos. 1.
The Battery will advance —March.		

When advancing in line, the No. 1 of the subdivision of direction will take up points on which to march, the other Nos. 1 taking their intervals from, and dressing by him.

No. 3.—FROM LINE TO RETIRE.

Commanding Officer.	Officers.	Nos. 1.
Right reverse—March.		

Officers and staff serjeants turn about on their own ground. Nos. 1. and coverers turn about with their subdivisions.

In the absence of coverers, the Nos 1. take their places. The subaltern officers remain between their guns.

No 4.—From Line to take Ground to a Flank.

Commanding Officer.	Officers.	Nos. 1.
Right (or Left) take ground—March.		

At the word "*March,*" each carriage wheels—officers and staff serjeants shift to their places in column of subdivisions.

No. 5.—From Line to Incline.

Commanding Officer.	Officers.	Nos. 1.
Right (or Left) Incline—March.		

At the word "*March,*" No. 1 subdivision must be careful to make the incline correctly; the lead driver of No. 2 dresses on the axletree of No. 1 gun, 14 yards distant; the lead driver of 3 dresses on the axletree of 2 gun, and so on.

The lead driver of No. 1 wagon dresses by his left on the axletree of 1 gun, and 14 yards from it; the lead driver of 2 wagon dresses on the axletree of 1 wagon body, and covers 1 gun, and so on.

"*Left Incline*" is done on the same principle.

To resume the original direction the word is "*Forward.*"

No. 6.—From Line to Diminish (or Increase) Intervals on the Move.

Commanding Officer.	Officers.	Nos. 1.
(To diminish.) *Half (or Close) Interval on—Subdivision.* (To increase:) *Half (or Full) Interval on—Subdivision.*		*Right (or Left) Incline—Trot—Forward—Walk* (except No. 1 of the named Subdivision).

The commanding officer names the subdivision on which the formation is to be made.

Should it be required to form diminished interval from the halt, the named subdivision stands fast, the remaining subdivisions reverse to the right.

No. 7.—FROM LINE TO ADVANCE IN COLUMN OF SUBDIVISIONS FROM A FLANK.

Commanding Officer.	Officers.	Nos. 1.
Advance in Column of Subdivisions from the Right—March.	Of Centre and Left Divisions — *Right take ground.*	Of 1—*Advance—Wagon Right.* Of 2—*Right take Ground.* Of 2, 3, 4, 5, and 6—*Left Wheel—Forward.*

The wagon of No. 1 trots up to the right of its gun at the word "*March.*"

The remainder take ground to the right, and wheel when in rear of No. 1.

No. 8.—FROM LINE TO ADVANCE IN COLUMN OF DIVISIONS OR HALF BATTERIES FROM A FLANK.

Commanding Officer.	Officers.	Nos. 1.
Advance in Column of Divisions—from the Right—March.	Of Right Division—*Advance.* Of Centre and Left Divisions—*Right take Ground—Left take Ground.*	Of 2—*Wagon Right—Wagon Rear.* Of 4—*Wagon Right—Wagon Rear.*

At the word "*March,*" the right division advances, and the wagon of the pivot subdivision moves up on the right of its gun, that it may not impede the march of the other divisions, it resumes its place as soon as possible. The centre and left divisions take ground to the right; and, when they arrive in rear of the right division, each division takes ground to the front in succession, the pivot wagon of the centre division moving up as described for that of the leading division.

In advancing from the right in column of half batteries, the left half battery proceeds as detailed for the centre division.

No. 9.—FROM LINE TO ADVANCE IN ECHELLON OF SUBDIVISIONS FROM A FLANK.

Commanding Officer.	Officers.	Nos. 1.
Advance in Echellon of Subdivisions—from the Right—March.		In succession—*Advance—March.*

At the word "*March,*" No. 1 subdivision advances; the other subdivisions in succession, at subdivision distance.

A battery in echellon of subdivisions, if required to change its front when in action, does so at the words "*Action Left (or Right)*," by throwing the trails round, and bringing the guns into the new direction; the limbers and wagons forming in rear of their guns.

No. 10.—From Line to Advance in Echellon of Divisions or Half Batteries from a Flank.

Commanding Officer.	Officers.	Nos. 1.
Advance in Echellon of Divisions — from the Right—March.	(In succession) — *Advance—March.*	

At the word "*March,*" the right division advances; the others in succession, at division distance.

In advancing from the right in echellon of half batteries, the left half battery proceeds as detailed for the centre division.

No. 11.—From Line to Advance in Double Column from the Centre.

Commanding Officer.	Officers.	Nos. 1.
Advance in Double Column from the Centre —March.	Of Centre Division— *Advance.* Of Right Division— *Left take Ground—March.* Of Left Division — *Right take Ground—March.*	Of 2 and 1—*Right take Ground.* Of 5 and 6—*Left take Ground.*

At the word "*March,*" the centre division advances. As soon as it has advanced 19 yards, the flank divisions take ground inwards, by word of command from the divisional officers.

As Nos. 2 and 5 come in rear of the column, they take ground to the front, by word of command from their Nos. 1. The flank subdivisions move at a reduced pace, till the wagons of 2 and 5 have passed to the front; they then take ground to the front, by word of command from their Nos. 1.

The staff serjeants in rear of wagons of 1 and 6; the captain in rear of the centre.

If it is intended to form line to the right, the commanding officer gives the word "*Right directs.*"

No. 12.—FROM LINE TO RETIRE IN COLUMN OF DIVISIONS OR HALF BATTERIES FROM A FLANK.

Commanding Officer.	Officers.	Nos. 1.
Retire in Column of Divisions from the Right —March.	Of Right Division— *Right Reverse.* Of Centre and Left Divisions — *Right take Ground—Right take Ground.*	Of 2—*Gun Left—Gun Rear.* Of 4—*Gun Left—Gun Rear.*

At the word "*March,*" the named division reverses to the right, and proceeds to the rear; its outer gun moves up on the left of its wagon, that it may not impede the march of the other divisions; and resumes its place as soon as possible. The other divisions take ground towards the named flank, the outer gun of the centre division moving up, as described for that of the named division.

In retiring from the right in column of half batteries, the left half battery proceeds as detailed for the centre division.

To retire from the left, the whole of the subdivisions are reversed to the right by the Commanding Officer, and advanced from the right in column of divisions.

No. 13.—FROM LINE TO RETIRE BY ALTERNATE HALF BATTERIES IN ACTION FROM A FLANK.

When a battery in line, in action, is ordered to retire from a flank by alternate half batteries, the whole of the wagons and limbers come up and reverse as for limbering up to the rear, the named half battery limbers up at once and retires on its marker, who will have taken up any distance that may be ordered in rear of its inward flank; the other half battery remains in action, the limbers four yards from the trails ready to limber up, and retire as soon as the named half battery is halted for action.

The senior officer of each half battery gives the word of command.

When the command "*Form line*" is given, line is formed on the rear half battery, the limbers and wagons of which at once take their usual position in action.

If the half battery to retire is not specified, the left retires.

Note.—At field days when ammunition is to be used, the limber boxes are not to be opened, but two or three cartridges are to be temporarily placed in one of the axletree boxes for use, when the limbers are in such close proximity to the guns.

No. 14.—From Line to Retire in a Double Column from the Centre.

In order to perform this manœuvre, the battery should be reversed, and then (with wagons leading) it is performed in the same manner as the advance from the centre, in a double column.

No. 15.—From Line to Change Front to the Rear.

Commanding Officer.	Officers.	Nos. 1.
Change Front to the Rear —March.	Of Centre Division — *Subdivisions Inwards about Wheel—Halt.* Of Right Division — *Advance—Left Wheel — Forward — Left Wheel — Forward — Halt.* Of Left Division —*Advance—Right Wheel — Forward — Right Wheel — Forward — Halt.*	Of 3—*Advance—Right Shoulders.* Of 4—*Left Shoulders.*

The serjeant-major places himself in rear of No. 3 subdivision. The quartermaster-serjeant takes up a distant point beyond where the right flank will rest, when the new formation is complete. The captain dresses the markers from the right of the serjeant-major.

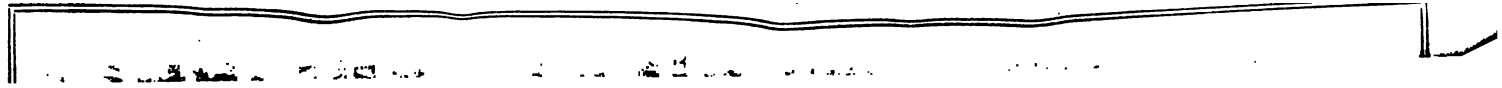
At the word "*March,*" the centre division wheels about inwards and halts in its place. The others advance four yards, wheel inwards, pass each other by sub-divisions bridle-hand to bridle-hand, and again wheel up into their places in line.

No. 16.—From Line to Change Front to the Rear when at Diminished Intervals.

Commanding Officer.	Officers.	Nos. 1.
Change Front to the Rear —March—Half Batteries Inwards about Wheel.	Of Right Half Battery —*Left about Wheel—Forward—Halt.* Of Left Half Battery—*Halt — Right about Wheel — March — Forward—Halt.*	

At the word "*March,*" the battery advances two horses' lengths, the left half battery halts, the right moves forward, and as soon as it is sufficiently advanced to enable the left half battery to wheel, the whole wheel about inwards, and incline to the centre, the right half battery coming up at an increased pace.

The markers as in the preceding movement.



When this is done on the move, the left half battery walks, the right half battery trots, and the movement is carried out as above.

A battery at diminished intervals may also change front to the rear on the centre, and open out to full intervals in wheeling; the word of command is,—

"*Change Front to the Rear, Full Interval on No. —.*" "*Left Half Battery, Halt.*" "*Half Batteries Inwards about Wheel.*"—"*Forward.*"

The right half battery moves forward as in the former case, and, in wheeling, the subdivisions open out to full interval from the one named.

No. 17.—FROM LINE TO REVERSE A BATTERY IN LINE WHEN AT DIMINISHED INTERVALS.

Commanding Officer.	Officers.	Nos. 1.
Battery will reverse—March.		Of 1, 3, and 5—*Advance—Front Form—Halt.*
Right Reverse.		Of 2, 4, and 6—*Halt.*

When this is done on the move, the left subdivisions walk, and the right trot, when clear the whole reverse.

No. 18.—FROM LINE TO CHANGE FRONT ON A FLANK SUBDIVISION.

Commanding Officer.	Officers.	Nos. 1.
Change Front to the Left—March.	Of Right and Centre Divisions—*Advance—Subdivisions Half Left—Forward.*	Of 6—*Right Wheel—Right about Wheel—Halt.* Of 5—*Advance—Wagon Right—Left take ground—Halt—Dress.* Of 4, 3, 2, and 1—*Left—Forward—Halt.*

At the word "*March,*" the left subdivision wheels to the right, and moves up to its position; the others advance, wheel half left, and left towards the formation, and halt when in line.

No. 19.—FROM LINE TO CHANGE FRONT RIGHT BACK. (Plate III.)

Commanding Officer.	Officers.	Nos. 1.
Change Front Right Back—March.	Of Right and Centre Divisions—*Right Reverse—Subdivisions Half Right—Forward.*	Of 6—*Left Wheel—Left about Wheel—Halt.* Of 5—*Right Reverse—Right Wheel—Right Reverse—Halt.* Of 4, 3, 2, 1—*Right—Right Reverse—Halt.*

No. 20.—From Line to Change Front Left Back.

Commanding Officer.	Officers.	Nos. 1.
Change Front Left Back—March.	Of Centre and Left Divisions — *Right Reverse.* Of Subdivisions—Left Division—*Half Left—Forward.*	Of 1 — *Right Wheel—Right about Wheel—Halt.* Of 2 — *Right Reverse—Left Wheel — Right Reverse—Halt.* Of 3 — *Left Wheel—Right Reverse—Halt.* Of 4—*Half Left—Left —Right Reverse—Halt.* Of 5 *and* 6 — *Left—Right Reverse—Halt.*

No. 21.—From Line to Change Front on a Central Subdivision—(Plate IV.)

Commanding Officer.	Officers.	Nos. 1.
Chanye Front to the Left on No. 4—March.		Of 1 — *Quarter Left—Left Wheel—Halt.* Of 2 — *Advance — Left Wheel—Halt.* Of 3—*Advance — Wagon Right — Left Take Ground—Halt.* Of 4—*Right Wheel—Right about Wheel—Halt.* Of 5 — *Right Wheel—Right about Wheel—Halt.* Of 6—*Right about Wheel —Left Wheel—Right about Wheel—Halt.*

When No. 5 subdivision wheels to the right it must throw its left shoulders forward.

As soon as No. 6 has wheeled about it must wheel to the left and pass sufficiently to the rear to enable it to come up square.

In changing front on a central subdivision, the longest flank should be thrown forward if possible—thus change of front to the right should be made on No. 3 ; to the left on No. 4.

No. 22.—From Line to change Front when in Action.

The commanding officer orders the named gun to be brought into action in the new direction, the guns next to it are brought into their position either "by hand" or "limbering up," according to the nature of the ground.

The guns next to those run up by hand should be limbered up, but the detachments not mounted.

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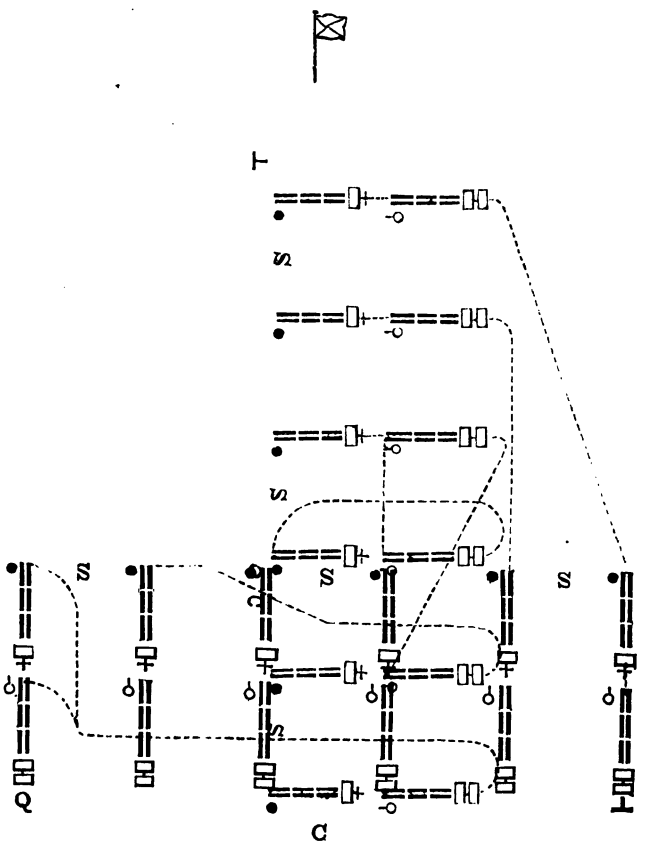
PLATE IV.

CHANGE FRONT TO THE LEFT ON No. 4 SUBDIVISION.



III.

A battery may change its front "half right" or "half left," on the same principle. The commanding officer's word would be "*Change Front,*" "*Half Right,*" "*On — Subdivision.*"

These manœuvres can be executed on the same principle by divisions and half batteries.

No. 23.—FROM LINE TO CHANGE FRONT FOR ACTION.

Commanding Officer.	Officers.	Nos. 1.
Change Front Right Back for Action—March.	Of Right and Centre Divisions — *Right Reverse* — Subdivisions—*Half Right —Forward.*	Of 6—*Action Right.* Of 5 — *Right Reverse — Right Wheel—Forward —Halt—Action Rear.* Of 4, 3, 2, and 1 — *Right — Forward — Halt — Action Rear.*

At the caution the left subdivision comes into action in the new direction; at the word "*March,*" the others proceed as in No. 19, and come into action to the rear, when their gun axle-trees are on the alignment.

No. 24.—FROM LINE—A BATTERY IN ECHELLON OF DIVISIONS TO CHANGE ITS FRONT WHEN IN ACTION.

Commanding Officer.	Officers.	Nos. 1.
Change Front to the Left, on the Left Guns of Divisions—March.		Of 2, 4, and 6 — *Action Left.*

At the caution the pivot guns are turned into the new direction, and at the word "*March,*" the others, if the ground will permit, are run into position by hand.

If an echellon of half batteries in action is ordered to change its front, it is better to do so on the centre guns.

No. 25.—FROM LINE TO CHANGE POSITION TO A FLANK. (Plate V.)

Commanding Officer.	Officers.	Nos. 1.
Change Position by the Oblique Echellon of Divisions to the Right — March — Form Line.	*Half Right—Forward —Right — Forward —Halt.*	

At the word "*March,*" the divisions wheel half right, and advance until the word "*Form Line*" is given.

The commanding officer gives the words "*Form Line*" when the echellon has arrived at 40 yards from the intended position.

The markers move out at the words "*Form Line,*" and mark the line at right angles to the original position, allowing 40 yards for the right division to wheel up square. The officer of the right division gives the word "*Right*" to his division, and halts it on the alignment.

The other divisions receive the word "*Right*" as soon as their right is uncovered from the division in front, and come up in succession into line.

This may also be done by half batteries.

No. 26.—FROM LINE TO CHANGE POSITION BY THROWING BACK A FLANK.

Commanding Officer.	Officers.	Nos. 1.
Change Position by the Oblique Echellon of Divisions Right Back — March — Form Line.	*Right Reverse—Half Right — Forward — Right— Forward — Right Reverse — Halt.*	

The battery having reversed, the movement is performed as in changing position to the right, except that each division, after completing the wheel at the word "*Right,*" passes the new alignment, and when sufficiently to the rear reverses to the right.

Note.—Changes of position may be made half right in the same manner, the divisions forming oblique echellon by wheeling quarter right. To complete the wheel in forming line the word is "*Right.*" These movements may also be done by half batteries.

No. 27.—FROM LINE TO FORM COLUMN OF DIVISIONS OR HALF BATTERIES IN REAR OF A FLANK.—(Plate VI.)

Commanding Officer.	Officers.	Nos. 1.
Column of Divisions in Rear of the Right— March.	Of Centre Division— *Right Reverse—Left Take Ground—Left Take Ground—Halt.* Of Left Division— *Right Reverse — Left Incline—Left Incline—Left Take Ground—Halt.*	

At the word "*March,*" the two divisions which are to move reverse to the right, and dress by the left; the centre division, when sufficiently to the rear, takes ground towards the column (viz., to the left); the officer, when he sees the leaders of his rear subdivision on the line of markers, gives the words "*Left take Ground,*" and halts his division when in position.

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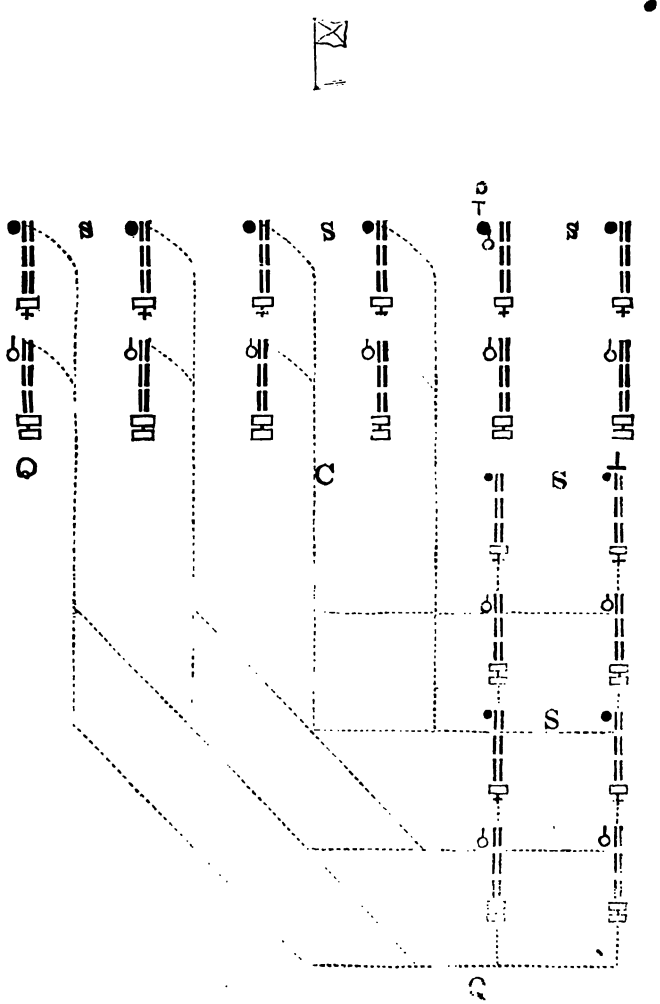
PLATE VI.

COLUMN OF DIVISIONS IN REAR OF THE RIGHT.



As soon as the centre division takes ground towards the column, the other division inclines in the same direction, and when sufficiently to the rear it inclines again, and proceeds as detailed for the centre division.

If the column is to be formed on the centre division, the right forms in rear of it, and the left in rear of the right.

A column of half batteries in rear of the right is formed in the same manner; the words of command for the left half battery are the same as detailed above for the centre division.

A quarter column of half batteries is formed in the same manner.

No. 28.—FROM LINE TO BREAK INTO COLUMN OF DIVISIONS, OR HALF BATTERIES, TO A FLANK.

Commanding Officer.	Officers.	Nos. 1.
Column of Divisions to the Right—Divisions Right Wheel—March.	*Forward.*	

At the word "*March,*" the divisions wheel to the right, and pass along the original alignment.

If, for convenience of ground or other reasons, it is desired to form a column of divisions or half batteries, maintaining the pivot, the manœuvre may be performed as follows:—

Commanding Officer.	Officers.	Nos. 1.
Break into Column of Divisions to the Right —March.		Of 1, 3, 5—*Right Take Ground—Guns Front.* Of 2, 4, 6—*Right Wheel —Forward.*

At the word "*March,*" the pivot subdivisions wheel, and pass along the original alignment. The other subdivisions take ground in the same direction, the guns at once inclining away to the front of their wagons, and then halting until the pivot subdivision comes up.

A column of half batteries can be formed in the same manner; the pivot subdivisions wheeling as before, but the others, after taking ground, must incline away to gain their required intervals.

This movement would generally be employed in breaking into column from line with other troops.

MOVEMENTS FROM COLUMN.

No. 1.—FROM COLUMN OF ROUTE TO FORM COLUMN OF SUBDIVISIONS.

Commanding Officer.	Officers.	Nos. 1.
Form Subdivisions — March.		Of 1—*Wagon Right.* Of 2, 3, 4, 5, 6 — *Wagon Right — Advance — March—Halt.*

Each subdivision receives the word "*Wagon Right;*" as soon as the wagons of 2, 3, 4, 5, and 6 are in line with their guns, the Nos. 1 of those subdivisions give the word "*March,*" when they close on the subdivision in front of them.

If this is done on the move the wagons will incline, and at an increased pace form subdivisions, which when square close up.

NO. 2.—FROM COLUMN OF ROUTE TO FORM COLUMN OF DIVISIONS.

Commanding Officer.	Officers.	Nos. 1.
Form Divisions—March.	Of Centre and Rear Divisions—*Halt.*	Of 2—*Left Take Ground —Right Take Ground —Halt.* Of 4 *and* 6 — *Left Take Ground — Right Take Ground—Forward.* Of 3 *and* 5—*Advance—March.*

The Nos. 1 of 3 and 5 give the word "*March*" as soon as 4 and 5 come into line with them. If the command is "*On the Right Form Divisions,*" the subdivisions form on the right.

If this is done on the move, the rear subdivisions of divisions will incline, and at an increased pace form divisions. The centre and rear divisions when square close up.

Column of half batteries may be formed in the same manner.

NO. 3.—FROM COLUMN OF SUBDIVISIONS TO FORM COLUMN OF DIVISIONS.

Commanding Officer.	Officers.	Nos. 1.
Form Divisions—March.		Of 1, 3, *and* 5 — *Wagon Rear.* Of 2, 4, *and* 6—*Left Take Ground — Wagon Left —Right Take Ground— Halt.*

At the word "*March,*" the wagons of 1, 3, and 5 reverse to the right, and form in rear of their guns.

If the command is "*On the Right Form Divisions,*" the rear guns form on the right, the wagons of the leading guns reverse outwards, and pass in rear of the wagons next them, and form in rear of their guns.

If this is done on the move, the wagons of 1, 3, and 5 drop in rear of their guns; 2, 4, and 6 incline to the left, "*Wagons Rear,*" and form divisions at an increased pace.

Column of half batteries may be formed in the same manner.

No. 4.—FROM COLUMN OF DIVISIONS TO ADVANCE IN COLUMN OF SUBDIVISIONS.

Commanding Officer.	Officers.	Nos. 1.
Advance in Column of Subdivisions from the Right—March.		Of 1—*Wagon Right.* Of 3 and 5—*Advance—Wagon Right.* Of 2, 4, and 6—*Right Take Ground—Wagon Close Interval—Left Wheel—Wagon Full Interval—Forward.*

To advance in a column of subdivisions from a column of half batteries is done in the same manner.

No. 5.—FROM COLUMN OF SUBDIVISIONS TO FORM COLUMN OF DIVISIONS TO A FLANK ON THE MOVE.

Commanding Officer.	Officers.	Nos. 1.
Form Column of Divisions to the Left.	Of Leading Division—*Left Take Ground.* Of Centre and Rear Divisions (in Succession)—*Left Take Ground.*	Of 2 and 4—*Wagon Right.*

A column of half batteries may be formed in a similar manner.

No. 6.—FROM COLUMN OF SUBDIVISIONS TO FORM COLUMN OF ROUTE ON THE MOVE.

Commanding Officer.	Officers.	Nos. 1.
Form Column of Route—Walk.		Of 1, 2, 3, 4, 5—*Trot—Wagon Rear.* Of 6—*Wagon Rear.*

The whole, except the rear subdivision, trot until they have attained sufficient distance from the subdivision in their rear to admit of the wagon coming in, when the major gives the word "*Walk.*"

In performing this movement from a halt, the leading subdivision moves forward at the word "*March,*" the wagon dropping in rear, and is followed by the other subdivisions in succession.

No. 7.—From Column of Divisions to Advance in Column of Route.

Commanding Officer.	Officers.	Nos. 1.
Column of Route from the Right—March.		Of 1—*Advance.* Of 3 and 5 (in Succession) — *Advance — March.* Of 2, 4, and 6 (in Succession) — *Right Take Ground—March—Left Take Ground.*

The word "*March*" is given to 2, 4, and 6 subdivisions when 1, 3, and 5 have advanced 19 yards.

If this is done on the move, No. 1 advances at an increased pace, and is followed by the others in succession.

This may be done from column of half batteries in the same manner.

No. 8.—From Column of Divisions or Half Batteries to Wheel into Line. (Plates VII. and VIII.)

Commanding Officer.	Officers.	Nos. 1.
Right (or Left) Wheel into Line—March.		Of 2, 4, 6 — *Right Wheel — Halt.* Of 1, 3, 5 — *Left Wheel—Forward — Right about Wheel — Forward —Halt.*

At the caution, the officers commanding divisions move to their position on and facing the alignment; at the word "*Eyes Front*" they turn to the right about and fall in between their sub-divisions.

The markers mark for the flank subdivisions (2 and 5, which will become 6 and 1 in the new line), the captain dressing them from the outer flank of the serjeant-major.

At the word "*March,*" the outer subdivisions wheel up into their places. In order to do this correctly, the drivers both of guns and wagons must break away to the rear of the intended line, so as to come up square. The pivot subdivisions wheel to the left, and when sufficiently to the rear, wheel about and come up to their positions.

This may be done to the left in the same manner.

The above may be done from column of half batteries in the same manner.

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PLATE VII.

COLUMN OF DIVISIONS TO WHEEL INTO LINE TO THE RIGHT.

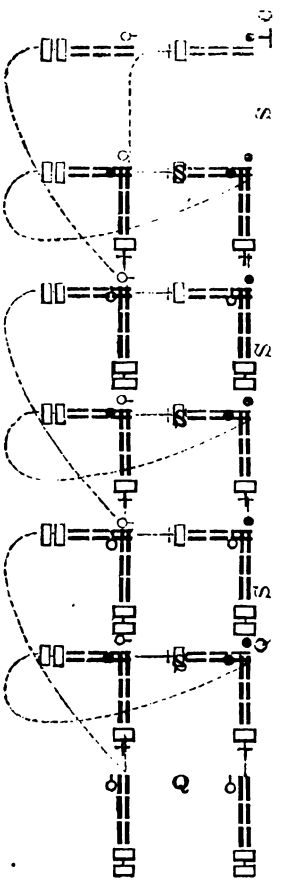

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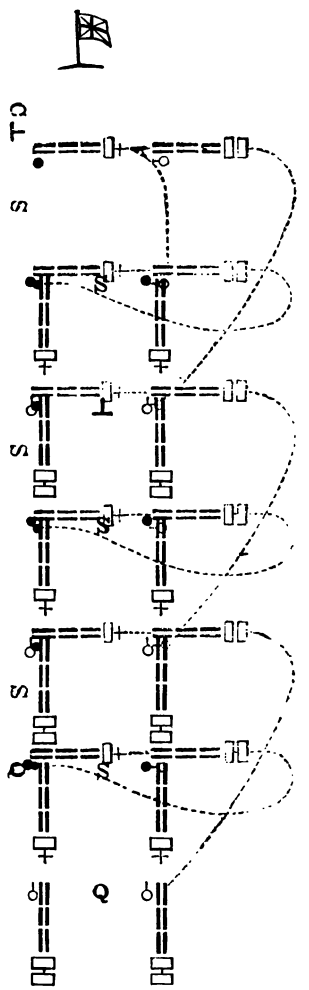
PLATE VIII.

COLUMN OF DIVISIONS TO WHEEL INTO LINE TO THE LEFT.



No. 9.—FROM COLUMN TO FORM LINE ON THE LEADING DIVISION.

Commanding Officer.	Officers.	Nos. 1.
Form Line—March.	Of Centre Division—*Left Take Ground—Right Take Ground—Halt.* Of Rear Division—*Left Take Ground—Right Incline—Right Incline—Halt.*	

At the caution the markers take up the alignment.

At the word "*March,*" the two rear divisions take ground to the left.

The officer of the centre division, as soon as his rear subdivision is opposite its position, gives the word "*Right Take Ground,*" and "*Halt,*" as his division comes up into line. As soon as the centre division takes ground to the front, the rear division inclines to the front; and when its rear subdivision is opposite its position it inclines again to the front, and comes up into line.

If "*On the Move,*" the centre and rear divisions incline towards the intended line, and come up at an increased pace.

Line may be formed to the right in the same manner, the word of command being "*On the Right, form Line.*"

When for "*Action,*" the leading division comes into action at the word "*March.*" The centre and rear divisions proceed as before, and come into action when in position.

Line is formed from column of half batteries in the same manner.

No. 10.—FROM COLUMN TO FORM LINE ON THE REAR DIVISION.

Commanding Officer.	Officers.	Nos. 1.
Form Line on Rear Division—March.	Of Centre Division—*Right Take Ground—Right Take Ground—Right Reverse—Halt.* Of Leading Division—*Right Take Ground Right Incline—Right Incline—Right Reverse—Halt.*	

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PLATE VIII.

COLUMN OF DIVISIONS TO WHEEL INTO LINE TO THE LEFT.

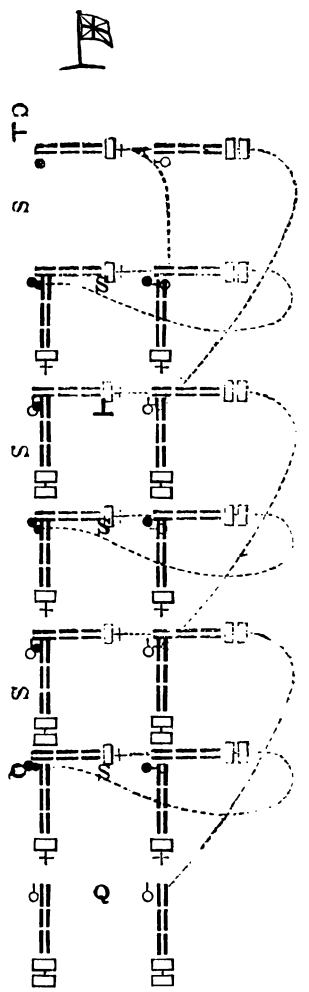

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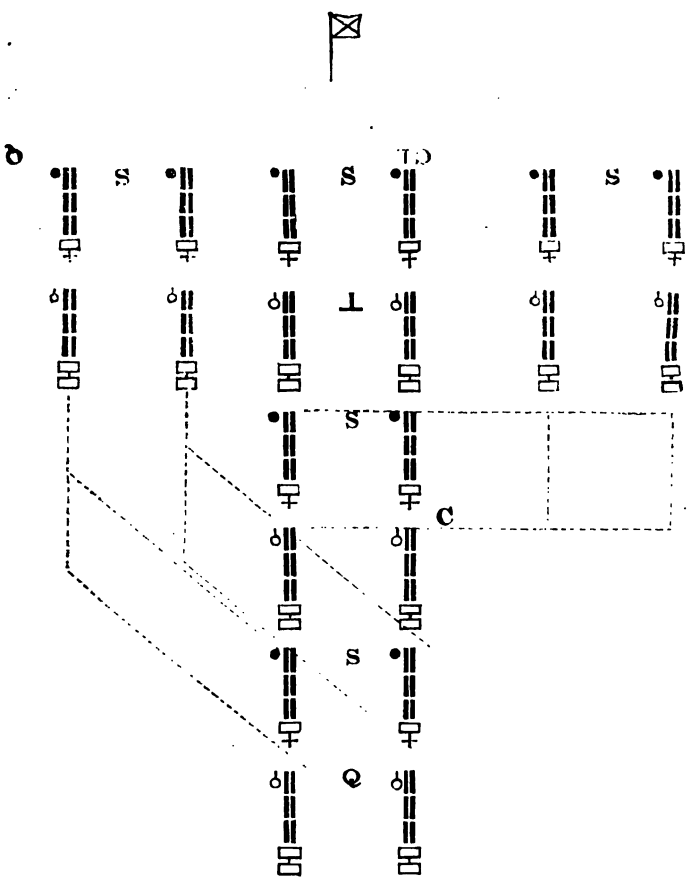
PLATE IX.

DEPLOY OUTWARDS.



No. 9.—FROM COLUMN TO FORM LINE ON THE LEADING DIVISION.

Commanding Officer.	Officers.	Nos. 1.
Form Line—March.	Of Centre Division—*Left Take Ground—Right Take Ground—Halt.* Of Rear Division—*Left Take Ground—Right Incline—Right Incline—Halt.*	

At the caution the markers take up the alignment.

At the word "*March,*" the two rear divisions take ground to the left.

The officer of the centre division, as soon as his rear subdivision is opposite its position, gives the word "*Right Take Ground,*" and "*Halt,*" as his division comes up into line. As soon as the centre division takes ground to the front, the rear division inclines to the front; and when its rear subdivision is opposite its position it inclines again to the front, and comes up into line.

If "*On the Move,*" the centre and rear divisions incline towards the intended line, and come up at an increased pace.

Line may be formed to the right in the same manner, the word of command being "*On the Right, form Line.*"

When for "*Action,*" the leading division comes into action at the word "*March.*" The centre and rear divisions proceed as before, and come into action when in position.

Line is formed from column of half batteries in the same manner.

No. 10.—FROM COLUMN TO FORM LINE ON THE REAR DIVISION.

Commanding Officer.	Officers.	Nos. 1.
Form Line on Rear Division—March.	Of Centre Division—*Right Take Ground—Right Take Ground—Right Reverse—Halt.* Of Leading Division—*Right Take Ground Right Incline—Right Incline—Right Reverse—Halt.*	

The base is given by the rear division.

At the word "*March,*" the centre and leading divisions take ground to the right. The officer of the centre division, as soon as he sees the limber of his rear gun opposite its position, gives the word "*Right Take Ground.*" The officer, as it goes to the rear, halts on the alignment, and as soon as the division is sufficiently to the rear gives the word "*Right Reverse.*" He halts it when in line, and turns right about.

The leading division, as soon as the centre division takes ground to the rear, inclines in the same direction; and as soon as the limber of the rear gun is opposite to its position, the division again inclines to the rear, and completes the manœuvre in the same manner as the centre division.

Line may be formed on the left of the rear division in a similar manner, the word of command being, "*Form Line on Left of Rear Division.*"

This can be done by half batteries in the same manner.

No. 11.—From Column to Form Line on the Centre Division.

This manœuvre is a combination of Nos. 9 and 10.

No. 12.—Retiring in Column of Divisions to Form Line on the Leading Division for Action Rear.

Commanding Officer.	Officers.	Nos. 1.
On the Right of the Leading Division, Form Line for Action Rear.	Of Leading Division— *Halt—Action Rear.* Of Centre Division— *Right Take Ground —Left Take Ground — Halt — Action Rear.* Of Rear Division — *Right Take Ground — Left Incline — Left Incline—Halt —Action Rear.*	

No. 13.—Changing the Order of a Column.

Should it be necessary to change the order of a column, the rear subdivision inclines to the right, or left, as ordered, and when clear of the column moves to the front, followed by the rest in succession.

A column of divisions or of half batteries is changed in a similar manner, the rear inclining to the right unless otherwise ordered.

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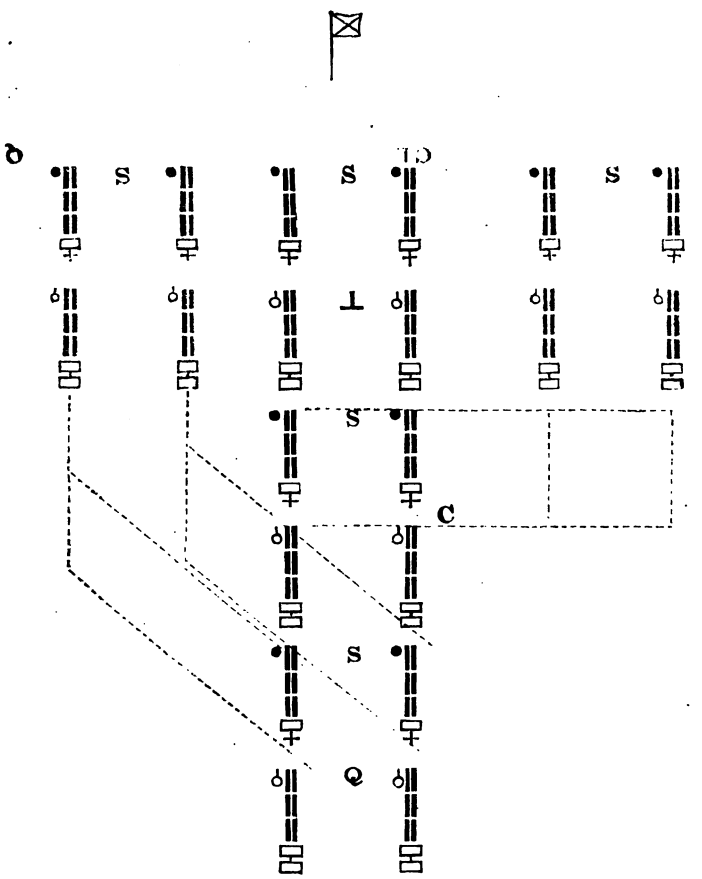
PLATE IX.

DEPLOY OUTWARDS.



No. 14.—TO COUNTERMARCH A COLUMN OF DIVISIONS.

Commanding Officer.	Officers.	Nos. 1.
The Divisions will Countermarch—March.	*Subdivisions Inwards About Wheel — Forward — Halt.*	Of 1, 3, and 5—*Advance Right Shoulders.* Of 2, 4, and 6 — *Left Shoulders.*

The base is given as for column.

At the word "*March*," the divisions wheel about inwards by subdivisions, and halt.

Officers turn right about and halt their divisions.

On the Move.—The divisions wheel about inwards by subdivisions, and move forward without halting. A column of half batteries countermarches in the same manner.

No. 15.—TO DEPLOY TO BOTH FLANKS. (Plate IX.)

Commanding Officer.	Officers.	Nos. 1.
Deploy Outwards — March.	Of Centre Division—*Right Take Ground —Left Take Ground —Halt.* Of Rear Division—*Left Incline—Right Incline—Halt.*	

MOVEMENTS FROM QUARTER COLUMN.

No. 1.—FROM QUARTER COLUMN OF HALF BATTERIES TO FORM LINE TO A FLANK.

Commanding Officer.	Officers.	Nos. 1.
Line to the Left on the Rear Half Battery —March.	Of Leading Half Battery — *Advance — Left Wheel — Forward—Halt.* Of Rear Half Battery —*Left Wheel—Forward—Halt.*	

The leading half battery as soon as it has got its proper distance wheels to the left; the rear half battery gives the base, wheels up at once, and advances its own depth before the word "*Halt*" is given.

No. 2.—A Quarter Column of Half Batteries to Change Front to a Flank. (Plate X.)

Commanding Officer.	Officers.	Nos. 1.
Change Front to the Right—March.	Of Leading Half Battery — *Advance in Column of Subdivisions from the Left — Right Take Ground—Halt.* Of Rear Half Battery *—Left Take Ground — Leading Subdivision Right Wheel —Forward — Right Take Ground—Halt.*	Of 3—*Wagon Left.* Of 2—*Left take Ground —Right Wheel.* Of 1—*Left take Ground —Right Shoulders — Right about Wheel.* Of 6, 5, and 4 in Succession—*Right Wheel—Forward.*

At the caution, the base is given by the markers; the serjeant-major on the prolongation of the outer flank of the column at a distance equal to its front.

No. 1 gun will wheel to the right about, when the other subdivisions of the half battery take ground the second time, and it will be necessary, therefore, that it should throw its right shoulders forward before it reaches the point where the preceding subdivisions have wheeled to the right.

If the change of front is to the left, the base for the covering is given on the left of the leading half battery.

Section 8.—Brigade Movements.

Movements from Line.

No. 1.—From Line to Advance in Column of Batteries from a Flank.

Commanding Officer.	Majors.
Advance in Column of Batteries from the Right—March.	Of Right Battery—*Advance.* Of Centre and Left Batteries—*Right Take Ground—Left Take Ground.*

At the caution, the major of the right battery shifts to his place in the column about to be formed. The majors of the centre and left batteries remain opposite the centre of their batteries until they are directly in rear of the major of the right battery, when they halt, allow their batteries to pass them, and as their rear subdivisions come in rear of the pivot flank of the column give the word "*Left Take Ground.*"

If the advance is ordered with diminished intervals, the right battery advances, closing on the pivot subdivision.

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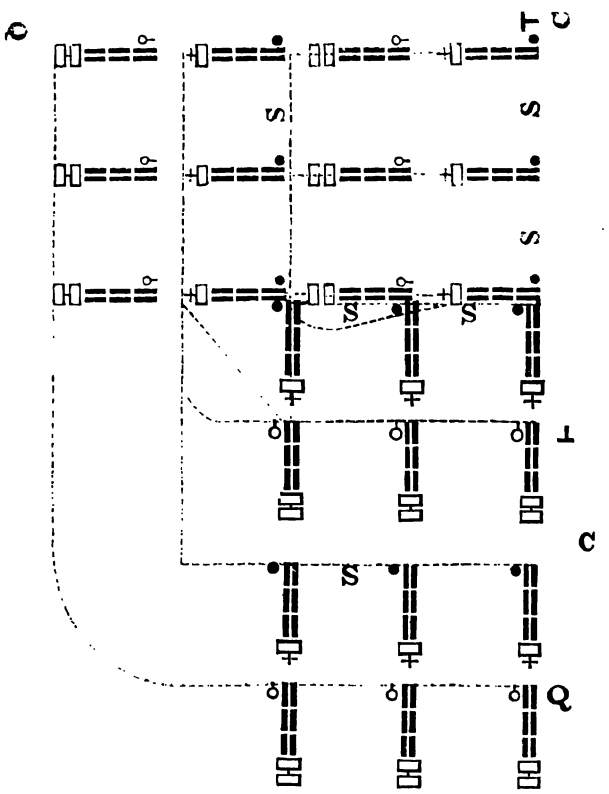
PLATE X.

QUARTER COLUMN OF HALF BATTERIES TO CHANGE FRONT TO THE RIGHT.



The wagons of the flank subdivisions must move up to avoid checking the half batteries in rear of them.

It should be borne in mind that although the double column has a front equal to a battery, it has only half battery distance.

The distance from the head of the double column to the next two half batteries will of course be 9½ yards additional, to allow for the battery interval.

To retire from the centre in double column of half batteries, the subdivisions are reversed to the right, and the movement is performed as above, by advancing from the centre.

NO. 4.—FROM LINE TO RETIRE IN COLUMN OF BATTERIES FROM A FLANK.

Commanding Officer.	Majors.
Retire in Column of Batteries from the Right—March.	Of Right Battery—*Right Reverse.* Of Centre and Left Batteries—*Right Take Ground — Right Take Ground.*

At the caution the major of the right battery shifts to the outer flank of his battery, and gives the word "*Forward, Eyes Left,*" when the battery has reversed.

The centre and left batteries take ground to the rear when they come in rear of the right battery.

The majors of the centre and left batteries shift to the left of their batteries as they take ground the second time.

To retire with reduced intervals, each battery closes on its No. 1 subdivision as soon as it takes ground to its rear.

To retire from the left, the whole of the subdivisions are reversed to the right by the Commanding Officer, and advanced from the right in column of batteries.

NO. 5.—FROM LINE TO RETIRE BY ALTERNATE BATTERIES, OR HALF BATTERIES.

Commanding Officer.	Majors.
Retire by Alternate Batteries—March.	*Right Reverse.*

The even numbered batteries retire first, or the word may be given, "*Retire by alternate Half Batteries,*" in which case the left half battery of each battery will retire first.

No. 8.—FROM LINE TO CHANGE FRONT ON A CENTRAL BATTERY. (Plate XIII.)

Commanding Officer.	Majors.
Change Front to the Left on the Centre Battery—March.	Of Centre Battery—*Change Front to the Left.* Of Right Battery—*Half Left—Forward—Left—Forward—Halt.* Of Left Battery—*Right Reverse—Left Wheel—Forward—Right Reverse—Halt.*

The base is given by the centre battery.

The left battery, in order to preserve its interval from the centre battery, must incline to the left after wheeling.

No. 9.—FROM LINE TO CHANGE FRONT TO THE REAR.

This movement is performed by each battery changing front to the rear.

No. 10.—FROM LINE TO CHANGE POSITION BY ECHELLON OF BATTERIES. (Plate XIV.)

Commanding Officer.	Majors.
Change Position to the Right by the Oblique Echellon of Batteries—March—Form Line.	*Half Right—Forward—Right—Forward—Halt.*

At the word "*March*" each battery wheels half right.

At the word "*Form Line,*" the leading battery immediately completes the wheel to the right, advances its own depth, halts, and gives the base, each battery completes the wheel to the right when opposite its marker.

In like manner the line may change position in any required direction, such as "*To the Left,*" "*Half right,*" "*Half left,*" "*Right back,*" &c.; the batteries always wheeling into oblique echellon, half the amount of the intended change, and the other half as they severally approach the new alignment.

Change of position may also be made by the oblique echellon of half batteries, in a similar manner.

No. 11.—FROM LINE TO CHANGE POSITION BY DIVISIONS FROM A FLANK.

Commanding Officer.	Majors.
Change Position to the Right by Divisions from the Right of Batteries—March—Form Line.	Of each Battery—*Advance in Column of Divisions from the Right—Leading Division, Half Right*—(In succession)—*Front Form.*

II.

If the line is in action, and the command is given "*Retire by alternate Batteries,*" the major of the centre battery gives the word "*Rear limber up.*"

The limbers and wagons of the other batteries come up, and reverse as laid down in manœuvres of a single battery.

At the word "*March,*" the centre battery retires to any distance that may be ordered, and comes into "action," its position being given by its marker, on its left flank under the superintendence of the adjutant.

As soon as the centre battery has halted and come into action, the flank batteries will limber up and retire a like distance beyond the centre battery, the markers marking for their inward flanks under the superintendence of the adjutant from the centre.

When the command "*Form Line*" is given, the line is formed on the rear battery or batteries, the limbers and wagons of which take their usual positions in action.

No. 6.—FROM LINE TO CHANGE FRONT TO A FLANK. (Plate XI.)

Commanding Officer.	Majors.
Change Front to the Right—March.	Of Right Battery.—*Change Front to the Right.* Of Centre and Left Batteries.—*Half Right — Forward — Right — Forward—Halt.*

Changing front is made on the flank battery unless otherwise ordered.

The base is given by the right battery.

To "change front half (or quarter) right" is done on the same principle.

No. 7.—FROM LINE TO CHANGE FRONT, RIGHT BACK. (Plate XII.)

Commanding Officer.	Majors.
Change Front Right Back—March.	Of Left Battery—*Change Front to the Right.* Of Centre Battery—*Right Reverse—Right Wheel — Forward — Right Reverse—Halt.* Of Right Battery—*Right Reverse—Half Right — Forward — Right—Forward—Right Reverse—Halt.*

The base is given by the left battery, which changes front to the right.

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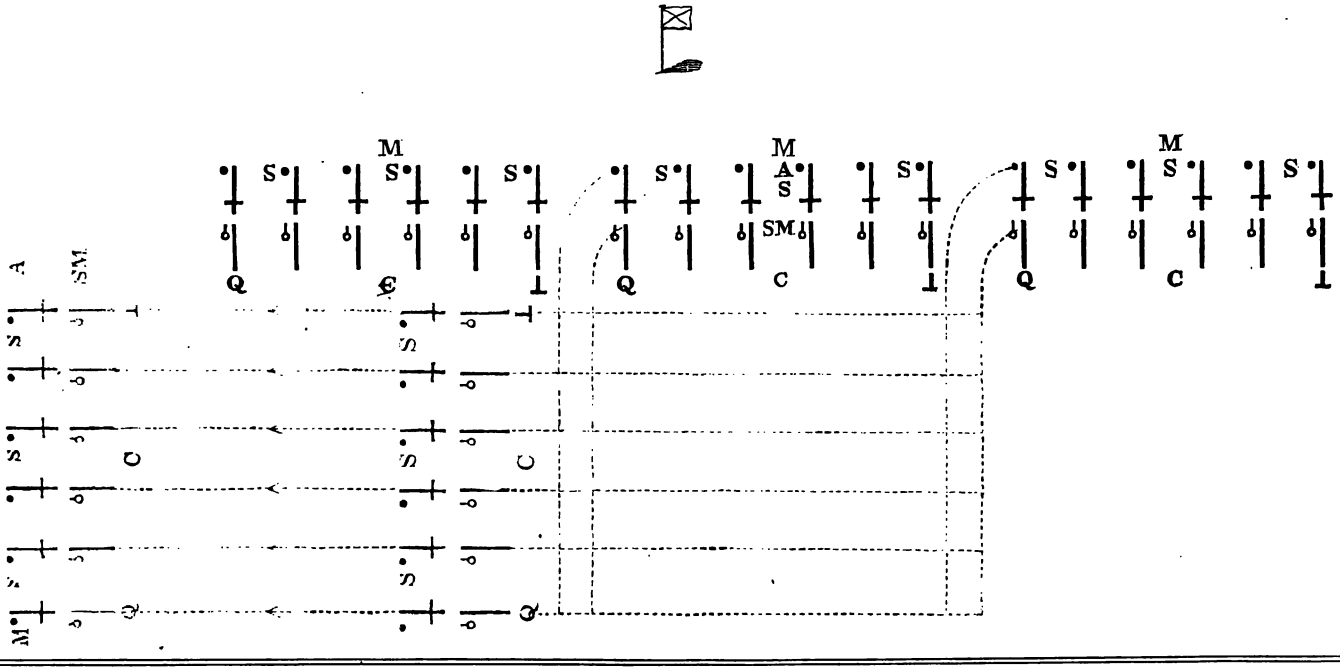
PLATE XVI.

COLUMN OF BATTERIES FROM THE RIGHT ALONG THE REAR.



The officers of the leading divisions conduct their batteries in the direction of the new position.

The Commanding Officer points out to the Major of the right battery the point where the right of the line is to rest.

The interval of the heads of batteries is to be preserved from the right battery. Each battery, as it approaches the line, receives the word "*Leading Division, Right,*"—"*Front, form*" from its Major, who dresses it from the right, and resumes his place.

The base is given by the right battery.

No. 12.—FROM LINE TO FORM COLUMN. (Plate XV.)

Commanding Officer.	Majors.
Column of Batteries in rear of the Right—March.	Of Centre Battery—*Right Reverse—Left Take Ground — Left Take Ground—Halt.* Of Left Battery—*Right Reverse—Left Incline—Left Incline—Left Take Ground—Halt.*

At the word "*March,*" the Major of the right battery shifts to his place in column of batteries. The Majors of the centre and left batteries remain in rear of their batteries as they go to the rear, halt when opposite their markers, and allow their batteries to go sufficiently to the rear to permit of their being brought up perfectly square in column.

The left battery inclines to the left when the centre battery takes ground to the left, and inclines again when sufficiently to the rear.

If the column is to be formed on the centre battery the right forms in rear of it, and the left in rear of the right.

A quarter column is formed in the same manner, with the exception that the left battery moves into column by two square movements.

No. 13.—FROM LINE TO MOVE TO A FLANK ALONG THE REAR. (Plate XVI.)

Commanding Officer.	Majors.
Column of Batteries from the Right, along the Rear—March.	(In succession) from the Right—*Left Take Ground—Leading subdivision —Left Wheel—Right Take Ground.*

At the word "*March*" the right battery takes ground to the left, and wheels immediately to the left. As soon as the rear subdivision (No. 1) has passed to the rear of the remaining batteries, the battery takes ground to the right.

As soon as the right battery has arrived in rear of the centre of the centre battery, the Major of that battery gives the word "*March,*" and the battery proceeds as detailed for the right battery. It is followed in a similar manner by the left battery.

Majors remain on the inner flank of their batteries till clear of the line; they then shift to the left.

A brigade in action may prolong the line to either flank, by the flank march of subdivisions along the rear, suppose to the left from the right; on the word "*Prolong the line to the left from the right,*" the right battery moves along the rear in column of subdivisions from the left, and each subdivision wheels up to the right in succession, and comes into "Action front."

MOVEMENTS FROM COLUMN.

No. 1.—FROM COLUMN TO WHEEL INTO LINE.

Commanding Officer.	Majors.
Left Wheel into Line—March.	*Change Front to the Left.*

At the caution, the majors place themselves facing the alignment, where the centre of their batteries will rest.

The base is given by the leading battery.

At the word "*March,*" each battery changes front to the left; the majors give the word "*Steady*" when their batteries are dressed.

When the dressing is completed the Commanding Officer gives the word "*Eyes Front,*" upon which the majors, adjutant, and markers resume their places.

Wheeling into line without halting is a most necessary practice; the word of command is the same as from a halt.

At the completion of the wheel the majors give the word "*Forward,*" and the line advances at the former pace. The dressing is by the battery of direction.

No. 2.—FROM COLUMN TO FORM LINE ON THE LEADING BATTERY. (Plate XVII.)

Commanding Officer.	Majors.
Line on the Leading Battery—March.	Of Centre Battery—*Left Take Ground —Right Take Ground—Halt.* Of Rear Battery—*Left Take Ground —Right Incline—Right Incline— Halt.*

PART V

The base is given by the leading battery.

At the word "*March*" the centre battery takes ground to the left, the Major halts opposite his marker, allows his battery to pass until the rear subdivision comes up to him, when he gives the word "*Right take Ground,*" and halts his battery on the marker.

The rear battery takes ground to the left at the word "*March,*" and as soon as the centre battery takes ground to the front, it inclines to the right until the rear subdivision is opposite the marker, when it inclines again to the right, and halts in line. If this is done on the move, the centre battery will proceed as laid down for the rear battery.

Line may be formed on the "*Right of the leading battery*" in a similar manner.

No. 3.—FROM COLUMN TO FORM LINE ON THE REAR BATTERY.

Commanding Officer.	Majors.
Line on the Rear Battery—March.	Of Centre Battery — *Right Take Ground — Right Take Ground — Right Reverse—Halt.* Of Leading Battery — *Right Take Ground — Right Incline — Right Incline—Right Reverse—Halt.*

The base is given by the rear battery.

If this is done on the move, the rear battery moves on at a steady pace; the centre and leading batteries take ground to the right, and as soon as they get their respective intervals, take ground to the left.

Line may be formed on the "*Left of the rear battery*" in a similar manner.

No. 4.—TO CHANGE THE ORDER OF A COLUMN.

Commanding Officer.	Majors.
Rear of the Column to the Front—March.	Of Rear and Centre Batteries (in succession)—*Right Incline—Forward —Left Incline—Forward.* Of Leading Battery—*Advance.*

No. 5.—To Countermarch a Column of Batteries.

Commanding Officer.	Majors.
The Batteries will Countermarch — March.	*Change Front to the Rear.*

The base is given by the rear battery.

If the batteries are at close interval, the right half batteries of each battery move forward until sufficiently in advance of the left half batteries to allow the latter to wheel about inwards, and at the word of command from the majors all the half batteries wheel about inwards (the right at an increased pace), and are halted on their markers by their respective majors.

Movements from Quarter Column.

No. 1.—From Quarter Column to Deploy to a Flank.

Commanding Officer.	Majors.
Deploy to the Left—March.	Of Centre and Rear Batteries—*Left Take Ground—Right Take Ground —Halt.*

The base is given by the leading battery.

No. 2.—From Quarter Column to Deploy to Both Flanks.

Commanding Officer.	Majors.
Deploy outwards—March.	Of Centre Battery — *Right Take Ground — Left Take Ground — Halt.* Of Rear Battery—*Left Take Ground —Right Take Ground—Halt.*

The base is given by the leading battery.

Should a brigade consist of more than three batteries, the Commanding Officer will name the number of batteries to form on the right, thus, "*Deploy Outwards—Two Batteries to the Right.*"

No. 3.—From Quarter Column to Open Out to a Column.

Commanding Officer.	Majors.
Open to Column from the Rear Battery—March.	Of Centre and Leading Batteries—*Advance—Halt.*

The markers take their distance from the rear battery. The adjutant corrects the covering from the front.

It may sometimes be necessary to open out from the leading or centre batteries, in which case the batteries in rear of the named one (which stands fast) reverse, proceed towards the rear, and reverse again when they have got their distances. Those in front of the named battery advance.

If it is intended that the brigade should advance after opening out, the word will be "*Advance in Column,*" upon which the leading battery advances at the word "*March,*" and is followed in succession by the others, when the battery in front of them has gained its distance.

No. 4.—FROM QUARTER COLUMN TO FORM LINE TO A FLANK.

Commanding Officer.	Majors.
Line to the Left on the Rear Battery —March.	Of Leading Battery—*Advance—Left Wheel—Forward—Halt.* Of Centre Battery—*Advance—Halt—Left Wheel—March—Forward—Halt.* Of Rear Battery—*Left Wheel—March—Forward—Halt.*

On the word "*March,*" the leading and centre batteries advance, and as soon as they have got their proper distance, wheel, in succession, to the left at the command from their respective majors, who remain on the left of their batteries until halted.

The rear battery wheels up, advances its own depth, and gives the base.

No. 5.—FROM QUARTER COLUMN TO CHANGE FRONT TO A FLANK.

Commanding Officer.	Majors.
Column will Change Front to the Right —March.	Of Leading Battery—*Advance from the Left in Column of Subdivisions —Right take Ground—Halt.* Of Centre and Rear Batteries—*Left take Ground—Leading Subdivision —Right Wheel—Right take Ground —Halt.*

The base for the covering is given by the leading battery on the prolongation of the outer flank of the column, at a distance equal to its front.

At the word "*March*" the leading battery advances from the left in column of subdivisions, and when the major finds his leading subdivision nearly opposite the marker, he gives the word "*Right take ground,*" halting his battery as it arrives at its marker, the rear subdivision throws its right shoulders forward, before it reaches the point where the preceding subdivisions have wheeled to the right, at which it reverses to the right.

The remaining batteries take ground to the left, leading subdivisions wheel to the right, and when covering the leading battery take ground to the right, and halt on their markers.

If the change of front is to the left, the base for the covering is given on the left of the leading battery.

No. 6.—FROM QUARTER COLUMN TO WHEEL TO A FLANK ON THE MOVE.

Commanding Officer.	Majors.
Column will wheel to the Right.	Of leading Battery—*Right Wheel—Forward.* Of Centre and Rear Batteries—*Left Incline—Forward—Right Wheel—Forward.*

The rear batteries incline to the left until their right subdivisions cover the right subdivisions of the leading battery, when they get the word "*Forward,*" immediately followed by "*Right Wheel,*" in succession, from their majors.

No. 7.—FROM QUARTER COLUMN TO REVERSE THE FRONT.

Commanding Officer.	Majors.
Column will Reverse its Front by Half Batteries Wheeling About Inwards—March—Half Batteries—Inwards About Wheel—Halt.	*Right Half Battery—Advance.*

The base for the covering is given by the leading battery at the rear of the column, on the outer flank.

The whole of the right half batteries advance until that of the rear battery is clear of the left half battery of the leading battery, sufficiently to allow of the latter to wheel

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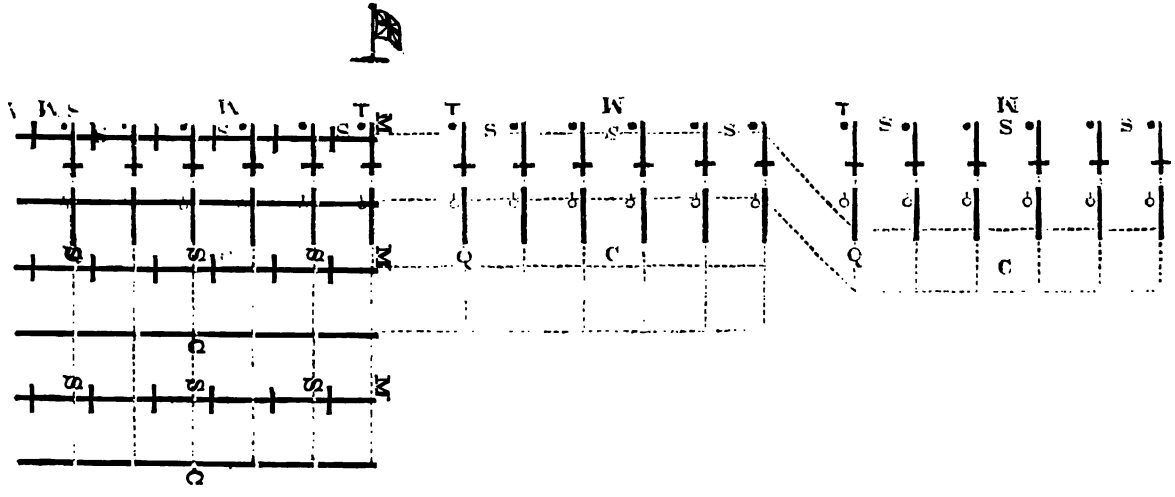
PLATE XVIII.

A BRIGADE IN QUARTER COLUMN OF BATTERIES TAKING GROUND TO A FLANK AND DEPLOYING ON THE REAR BATTERY.



inwards, when at the word "*Inwards About Wheel*" from the Commanding Officer, the head of each column of half batteries wheels about inwards, the right at an increased pace; the whole are halted by the Commanding Officer when the leading battery reaches its marker.

The majors lead round with their left half batteries.

This can be done at reduced intervals.

No. 8.—A QUARTER COLUMN OF BATTERIES TAKING GROUND TO A FLANK, TO DEPLOY ON THE REAR BATTERY. (Plate XVIII.)

Commanding Officer.	Majors.
Deploy on the Rear Battery.	Of Rear Battery—*Halt—Left Take Ground—March—Halt.* Of Centre Battery—*Halt—Left Take Ground—March—Halt.* Of Leading Battery—*Leading Subdivision Right Incline—Forward—Left Take Ground—Halt.*

The base is given by the rear battery.

If this is done with other troops, the adjutant and marker of the base battery should fall out, and follow the flank march of the column, ready to give the base and points immediately the brigade arrives at where its left will rest. The majors of the centre and rear batteries should also remain in rear.

The rear battery halts at the word to deploy until its left is clear, it then takes ground to the left, and moves up to the alignment.

This is a special parade movement, to be used when it is desired to preserve the original telling off.

MOVEMENTS FROM DOUBLE COLUMN.

No. 1.—FROM DOUBLE COLUMN OF HALF BATTERIES TO FORM LINE.

Commanding Officer.	Majors.	Officers.
Form Line—March.	Of Right Battery — *Right Take Ground.* Of Left Battery—*Left Take Ground.*	Of Half Batteries of Right Battery — *Left Take Ground —Halt.* Of Half Batteries of Left Battery — *Right Take Ground —Halt.*

The base is given by the centre battery.

The rear half batteries take ground outwards by word of command from their majors, and towards the front, in succession, by word from the subalterns, when opposite their position in line.

With an even number of batteries the base is given by the directing half battery. The marker of the right centre battery marks for No. 3. The others for the subdivisions of their batteries nearest the base.

If this is done on the move, the major of the right battery gives the word "*Half Batteries—Half Right—Forward;*" the major of the left battery, "*Half Batteries—Half Left—Forward;*" and the major of the centre battery gives the word "*Walk*" as soon as he hears the word "*Forward*" given by the major in his rear.

The half batteries make a half wheel to the front in succession as they come opposite their position in line, and form on the alignment.

No. 2.—From Double Column to Form Line to a Flank.

Commanding Officer.	Majors.	Officers.
Line to the Right—March.	Of Right Battery — *Half Batteries Right Wheel—Forward—Halt.* Of Centre Battery—*Right Wheel—Forward—Halt.* Of Left Battery—*Advance.*	Of Half Batteries of Left Battery (in succession) —*Right Wheel—Forward—Halt.*

The base is given from the right battery, which advances its own depth and halts.

Section 9.—Inspection and Review.

Battery.

The battery is formed in line limbered up, the detachments mounted, the wagons four yards in rear of, covering the guns.

The officers at order, viz., the subalterns one horse's length in front of the centre of their divisions, the captain one horse's length on the right of No. 1 sub-division, in line with the subalterns.

The major in the centre one horse's length in front of the subalterns.

The surgeon and veterinary surgeon two horses' length on the right of No. 1 sub-division, in line with the lead horses of the guns.

Trumpeters one horse's length on the right of the staff officers.

The serjeant-major one horse's length in rear of No. 1 sub-division; the quarter-master serjeant in rear of No. 6; the farrier in rear of No. 2; the mounted shoeing smith in rear of No. 5 sub-division; the spare horses in rear of their respective sub-divisions in line with the staff serjeants.

As the inspecting officer arrives about 40 yards from the commanding officer, he gives the word, "*General Salute,*" "*Eyes Centre,*" "*Draw Swords,*" the time being taken from the commanding officer. Officers and mounted non-commissioned officers draw swords, the officers coming down, at the last motion, to the salute.

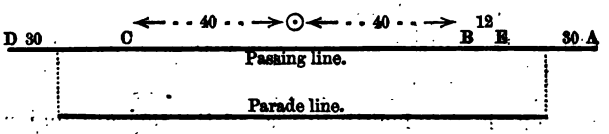
The band plays, or trumpets sound according to the rank of the inspecting officer, after which the officers recover and carry swords with the commanding officer.

Should the inspecting officer be under the rank of brigadier-general, he will be received with "Carried Swords," the officers will not salute.

The commanding officer accompanies the inspecting officer while he makes his inspection.

As soon as the inspection has been made the commanding officer gives the word "*Slope Swords,*" subalterns remain at order.

When the caution is given to march past, the captain marks the passing line by placing points as follows:



One of the gunners, (the highest number) of No. 3 sub-division at point B, 40 yards on the right of the centre, facing the battery, and on a line about four yards in advance of that upon which the inspecting officer is supposed to place himself. The highest number of No. 4 sub-division places himself at C, at an equal distance on the left of the centre,

dressing by B, the captain posts himself at E, about 12 yards beyond, until C is correctly dressed; two gunners, (the highest numbers) of No. 1 and 6 sub-divisions move out to A and D, each outflanking the battery by about 30 yards, and dress by the points B and C. The captain proceeds to the point A to superintend the covering.

MARCHING PAST.

A Battery to march past in Line at Close Interval.

The major gives the command "*The Battery will march past at close interval,*" "*Right take ground,*" "*Walk,*" "*March.*"

At the word "*March,*" the staff fall out, and do not again fall in with the battery, but must remain on the ground until the conclusion of the review; the trumpeters take post for manœuvre.

When the head of the column arrives at the first wheeling point opposite A, the No. 1 of the leading subdivision gives the word "*Left Wheel,*" "*Forward,*" and when the head of the column arrives at the point A the major gives the word "*Left take ground,*" "*Close interval on* 1," upon which the rear sub-divisions incline to their right after taking ground and move up to close interval at an increased pace, the subalterns taking post one horse's length in front of the centre of their divisions.

The major in the centre, one horse's length in front of the subalterns.

The serjeant-major marches past in rear of No. 1, quarter-master-serjeant in rear of No. 6, the farrier in rear of No. 2, and the mounted shoeing smith in rear of No. 5 sub-division; the senior trumpeter one horse's length on the outer flank of, and dressing with lead horses of the guns (where he goes, on arrival of the battery at the point B), the other trumpeter in rear of No. 4 sub-division, in line with the staff serjeants, the captain one horse's length in rear of the serjeant-major.

At the point B the major gives the word "*Carry Swords,*" "*Eyes Right,*" upon which the drivers salute.

At 10 yards from the inspecting officer, the officers salute, subalterns taking the time from the major.

As soon as the major has passed the inspecting officer he places himself on his right and "carries" his sword; at 10

yards past the inspecting officer, the subalterns "recover" and "carry" their swords, taking the time from the officer on the right; when the rear of the battery has passed the inspecting officer the major rejoins his battery.

At the point C the word "*Slope Swords,*" is given by the senior subaltern upon which the drivers throw back their whips, and the senior trumpeter falls out to rejoin the major.

At the point D the major gives the word "*Left Wheel,*" also at the fourth wheeling point, and the battery is moved round to the point B.

RANKING PAST.

By Single File.

The battery being halted four horses' lengths short of the point B, on the command, "*The Battery will rank past, by Single File,*" the captain, or in his absence the serjeant-major, places himself on the right flank of the battery, and turns to his left to superintend the ranking off; the Nos. 1 move out to three horses' lengths in front of their guns, their coverers half a horse's length in rear of them.

When there are no coverers the Nos. 1 will move out one horse's length.

The trumpeters place themselves in single file in front of the No. 1 of No. 1 sub-division. The subalterns in front of the trumpeters, the major in front of the subalterns.

The distance from head to croup is four feet or half a horse's length.

The major then gives the word "*Carry Swords,*" "*Eyes Right,*" "*Advance by Single file from the Right,*" "*Walk,*" "*March.*" At the word "*March*" they move off, No. 1 of No. 1 subdivision followed by his coverer, the remainder turn to their right, move up to the passing line, turn to their left in succession, and cover from the front, each No. 1 followed by his coverer.

The guns move off from the right, then the wagons and spare carriages, in succession. Four yards is kept between each carriage on the passing line, all covering from the front. The drivers salute without any word of command at the point B.

The shoeing smith ranks past, in rear of the rear carriage followed by the farrier, quarter-master serjeant, serjeant-major, and captain.

The officers salute in succession when within 10 yards of the inspecting officer.

The Major after passing the inspecting officer places himself on his right, as before.

At the point C the drivers throw back their whips. At D, the senior subaltern gives the word "*Front Form,*" the battery re-forms (no carriage leavingt he passing line until it arrives at the point C), and when formed, "*Slope Swords.*"

The major gives the word "*Left Wheel,*" also at the fourth wheeling point, and the battery is moved round to the point B.

Spare horses do not rank past.

By Sections.

The battery being halted at the point B, on the command, "*The Battery will rank past by Sections,*" the captain, or in his absence the serjeant-major, places himself on the right flank of the battery, and turns to his left, to superintend the ranking off.

The Nos. 1 move out to three horses' lengths in front of their guns, their coverers half a horse's length in rear of them. The trumpeters place themselves one horse's length in front of the Nos. 1 of 1 and 2, extending from the right one horse's length from each other.

The subalterns in line in front of the trumpeters at the same distance and interval from the right. The major places himself on the passing line one horse's length in front of the subalterns.

At the word "*Carry Swords,*" "*Eyes Right,*" "*Walk,*" "*March,*" the Nos. 1 of right and centre divisions move forward, their coverers form the next section; the Nos. 1 and coverers of the left division wheel to their right, and then to the left, forming the rear section; there is to be a horse's length from nose to croup, and also from knee to knee, all dressing by the right and covering from the front.

The guns of the right half battery follow, the off horses of No. 1 covering the right files, and the riding horses of No. 3 covering the left files, of sections; No. 2 will be in rear of centre of the sections. The guns of the left half battery follow in rear of and covering those of the right; the wagons of the right half battery follow the guns, and those of the left half battery follow in rear of them.

The drivers salute without any word of command, at point B.

The staff serjeants, farrier and shoeing smith will form a section in rear of the carriages.

The captain one horse's length in rear of the serjeant-major.

The officers salute when within 10 yards of the inspecting officer, subalterns taking time from the major, who after passing the inspecting officer places himself on his right as before. At the point D the senior subaltern gives the word "*Front Form,*" and when the battery is re-formed, "*Slope Swords.*"

If trotting the officers and drivers do not salute.

TROTTING PAST.

The major gives the word, "*The battery will trot past,*" "*March.*" At the point B "*Carry Swords,*" "*Eyes Right,*" he falls out as before. At the point C, "*Slope Swords,*" is given by the senior subaltern.

The battery is then re-formed opposite the saluting point at full interval. The major gives the word "*Carry Swords*" on wheeling into line.

Spare horses or carriages do not trot past.

DIVISIONS OR HALF BATTERIES.

In marching past in column of divisions or half batteries, the officers commanding divisions give executive words of command to their divisions or half batteries.

In marching past at full, or half interval, the subalterns are one horse's length in front of their divisions.

In ranking past from divisions, or half batteries, quarter column must be formed at point B, before ranking past, and the leading division or half battery must wheel to the left immediately it is re-formed at the point D, advance the depth of the column at the pace the battery is moving, and halt.

If there is only one subaltern with a half battery he marches past in front of the centre of his half battery.

SWORD EXERCISE.

The sword exercise is usually performed after the battery has marched past and formed up on the original ground.

The major gives the command, "*Form for Sword Exercise,*" upon which the subalterns move out four horses' lengths to the front and halt. The Nos. 1 place themselves one horse's length in front of the off leaders of their guns, the coverers place themselves on the left of their Nos. 1 in front of the near leaders. The serjeant-major one horse's length on the right of, and the quarter-master serjeant one horse's length on the left of, and dressing with the Nos. 1 and coverers.

"*Close to the centre.*" "*March.*" At the word "*March*" the Nos. 1 and coverers of the right and left half batteries, close to the centre by wheeling inwards, those of the centre division forming up, two horses' lengths in front of that division, the remainder form up in succession. The subalterns of the flank divisions move with, and form up one horse's length in front of them.

The serjeant-major follows the No. 1 of 1 and covers him in line. The quarter-master serjeant follows and covers the coverer of 6.

The captain dresses the line from the right flank and gives the word "*Steady,*" the major orders "*Eyes Front,*" the captain remains on the right of, facing the line. The major then gives the command, "*From the right of divisions to the front file, March.*" The subalterns place themselves in front of the Nos. 1 of their right sub-divisions, and lead the files to the front, the whole dressing by the right and maintaining their proper interval from that flank.

When there are no coverers, an interval of three yards must be taken up and maintained from the right of divisions, as the leading file of each division advances.

The serjeant-major becomes the rear file of the right, and the quarter-master serjeant of the left division.

The captain superintends the dressing, when sufficiently advanced the major orders "*Halt, Dress.*" When the covering and dressing is complete, he orders "*Eyes Front,*" the captain falls in two horses' lengths in rear of the centre.

The sword exercise is then performed. On the conclusion of which the major orders "*Front Form,*" "*March,*" "*Carry Swords,*" "*Return Swords,*" "*Take Post on your subdivisions,*" "*Outwards wheel,*" "*March.*" On the word "*March*" the serjeant-major and quarter-master serjeant move along the front towards the flanks, the Nos. 1 and coverers wheel together outwards in succession and follow them. The subalterns move with their divisions, all wheel up and halt opposite their proper position, when they move to the battery, dressing by the centre. The coverers moving to the

wagons when the Nos. 1 halt at their guns, all come about together with the captain, or in his absence the sergeant-major.

BRIGADE.

The Brigade is formed in line the officers at order as detailed for a single battery.

The commanding officer in the centre two horses' lengths in front of the lieut.-colonels.

The lieut.-colonels in the centre of their commands two horses' lengths in front of majors of batteries.

The adjutant having dressed the line of captains and subalterns, places himself two horses' lengths on their right.

The brigade serjeant-major having dressed the wagons, places himself in line with the lead horses of the guns, covering the adjutant.

The brigade staff officers one horse's length on the right of the brigade serjeant-major.

All the trumpeters one horse's length on the right of the Brigade staff officers.

When two batteries are inspected, they will be under the command of a lieutenant-colonel or the senior officer present.

When a brigade consists of more than three batteries, it should be told off in brigade divisions, and a lieutenant-colonel, or other officer appointed to command each brigade division.

After the salute has been given, the officers commanding brigades, or brigade divisions, will post themselves on that flank of their commands to which the inspecting officer repairs, where they will receive him and accompany him to the extent of their commands, after which they will resume their original posts.

MARCHING PAST.

At the caution to "*March Past,*" the adjutant marks the passing line in the same manner as laid down for a battery, the points being given by farriers and quarter-master serjeants.

The commanding officer gives the word "*The Brigade will march past in column of Batteries,*" "*Close interval.*"

The staff officers fall out, and the trumpeters rejoin their respective batteries. The trumpeter accompanying the commanding officer marches past half a horse's length to the right or left rear of him, according to the flank the marching past is from.

The brigade then marches past as detailed for a single battery.

In marching past the lieutenant-colonels or officers commanding brigade divisions are two horses' lengths in front of the majors commanding the leading battery of their brigade divisions.

At "Reviews" and "Field Days," the senior officers commanding the parade, and brigades, fall out after saluting, and place themselves on the right of the reviewing officer; lieutenant-colonels and majors remain with their brigade divisions and batteries.

At "Inspections," lieutenant-colonels and majors fall out, and place themselves on the right of the inspecting officer.

The adjutant marches past two horses' lengths in rear of the captain of the rear battery. The brigade serjeant-major in rear of the left sub-division dressing by the adjutant. The riding master, if not required by the commanding officer, will march past in rear of the centre in line with adjutant and brigade serjeant-major.

RANKING PAST.

Before ranking past by single file, or sections, quarter column should be formed on the leading battery at the point B, where the adjutant places himself on the right flank of the leading battery to superintend the ranking off. On the command "*March*," the leading battery ranks past as detailed for a single battery, the others move up in succession to point B, before ranking off; the majors of the rear batteries maintaining a distance of 10 yards from the rear file of the battery in their front.

The brigade serjeant-major ranks past in rear of the captain of the rear battery, followed by the riding master and adjutant. In ranking past by sections they form a section in rear of the whole.

At the point D each battery is re-formed in succession.

As soon as the leading battery is re-formed, it wheels to the left, advances (at the pace the brigade is moving) the depth of the column, and halts, the others form quarter column on it.

TROTTING PAST.

The commanding officer gives the word "*The Brigade will trot past in Column of Batteries*," "*March*." Each battery trots past as detailed for a single battery.

The adjutant trots past two horses' lengths in rear of the captain of the rear battery, the brigade serjeant-major in

rear of the left sub-division dressing by the adjutant. On arriving on the original ground the brigade is wheeled into line previous to commencing manœuvres.

Swords to be carried on coming into line.

MARCHING PAST BY BRIGADE DIVISIONS.

If a brigade in "column of batteries, close or half interval," is to march past by "Brigade Divisions" (two or three batteries in line) the batteries forming the brigade divisions must close before reaching the point A, to such wheeling distance as will allow an interval of 10 yards, at close, or 15 yards at half interval being preserved between the batteries when wheeled up on the passing line.

Field batteries with wagons, cannot do this as a square movement; the rear batteries after wheeling must gain ground towards the passing line to obtain the required interval.

On arriving at the point D the brigade divisions will wheel to the left and re-form column as may be ordered.

SWORD EXERCISE.

When a brigade of batteries is required to perform the sword exercise, the commanding officer gives the word, "*Form for Sword Exercise,*" on which the centre battery forms as a single battery, the others in front of their inward flanks, and on the command "*Close on the Centre,*" "*March,*" being given they form by column of divisions on the centre battery. An interval of four horses' lengths to be preserved between each battery.

The majors in the centre of their batteries one horse's length in front of the subalterns.

The captains two horses' lengths in rear of the centre of their batteries.

The adjutant dresses the markers from the centre battery, (which gives the base) who mark for the inward flanks of their batteries; when the formation is complete, and the word "*Eyes front*" given, the markers fall in and the adjutant places himself on the right of the line of subalterns, at two horses' lengths interval. The brigade sergeant-major in rear of him, dressing with the front rank. On the command "*From the right of Divisions to the front file,*" "*March,*" each battery acts as laid down for a single battery.

The adjutant advances with, and dresses the subalterns. The brigade serjeant-major turns to the left, and superintends the dressing of the ranks, and resumes his place in rear of the adjutant when it is completed.

When the sword exercise is finished, the commanding officer gives the word "*Front form*," "*March*," when formed "*Sub-divisions outwards*," "*March*." The subdivisions wheel outwards, and proceed as laid down for a single battery. The adjutant on the right, and the brigade serjeant-major on the left, marking points on the flanks of the brigade in prolongation of the alignment, for them to march on; when opposite their proper positions, the captain of the battery of direction gives a signal for them to move on their guns.

When there are an even number of batteries on parade, they are all formed on their inward flanks and "closed on the centre."

"*Advancing in Review Order*."—At the end of the review, if required to do so by the reviewing general, the battery (or batteries) will be formed up on the original ground, the officers in front.

The line will then advance, the band playing, and when at a convenient distance from the reviewing general, will be halted and ordered to salute.

PART VIII.

HORSE ARTILLERY.

Drill with Field Guns.

For "Preliminary Remarks," "Instruction in Laying Ordnance," see page 210.

Section 1.—Drill with R. M. L. Ordnance.

The detachment consists of one non-commissioned officer and eight gunners, and falls in two deep in rear of the gun, which is limbered up.

To Tell Off.

Officer.	*No.* 1.
Tell off.	

At "*Tell off*" No. 1 (who is on the right of the detachment) takes a pace to his front, turns to his left and numbers himself 1; the right-hand man of the rear rank numbers 2, the right-hand man front rank 3; the second man from the right of the rear rank 4; the man in his front 5, and so on; after the detachment is told off, No. 1 falls in again on the right of the front rank.

No. 1 then straps on the fuze pocket on his right side, and 5 the tube pocket.

The front is that direction in which the gun is pointed when unlimbered, or to which, when limbered up, the horses' heads are turned.

Position of Detachment when Limbered Up.

In Order of March.

No. 1 in line with the point of the near shaft and two yards on the left of it.

Nos. 2 and 3 in line with the axletree of the gun carriage.

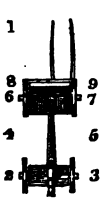
Nos. 4 and 5 in line with the centre of the trail.

Nos. 6 and 7 in line with the axletree of the limber.

Nos. 8 and 9 in line with the splinter bar.

The Nos. stand covering, one yard from the wheels. (Fig. 1.)

Fig. 1.



IN FRONT.

Two deep two yards in front of the shafts.

IN REAR.

Two deep two yards in rear of the muzzle of the gun.

RIGHT OR LEFT.

Two deep in line with the gun axletree, one yard to the right or left of the wheel.

TO MOUNT.

Officer.	*No. 1.*
Prepare to mount.	*Prepare to mount.*
Mount.	*Mount.*

At "*Prepare to mount,*" Nos. 1, 2, 3, 6, and 7 run to their horses' heads by the front, Nos. 1 and 3 by the right of the gun horses, Nos. 2, 6, and 7 by the left, 4 and 5 to the gun limber, 8 and 9 to the wagon limber; 4 and 8 lay hold of the guard irons with their left hands; 5 and 9, with their right; 4 places his right, and 5 his left foot on the trail handle; 8 his right, and 9 his left foot on spokes of wheels.

"*Mount,*" the whole spring into their places; the numbers on the limbers, facing to the rear, but immediately afterwards turning round to the front, by lifting their feet close together, and throwing them over the guard irons.

TO DISMOUNT.

Officer.	*No. 1.*
Prepare to dismount.	*Prepare to dismount.*
Dismount.	*Dismount.*

"*Prepare to dismount,*" the Nos. 4 and 5 throwing their legs over the guard irons turn to the rear, 8 and 9 stand up, keeping their outward hands on the guard irons.

"*Dismount,*" the whole dismount and stand at attention.

If for "*Action,*" the horse holders do not dismount, the other numbers take their posts at the gun, the mounted numbers leaving their horses by the rear; when the detachment is in rear of the gun they leave their horses by the front.

EXERCISE WITH DRAG ROPES.

When drag ropes are used, Nos. 6 and 7 pass them towards 2 and 3, who hook them to the drag washers of the gun on their own side. The Nos. manning them on their own sides. No. 9 is in the shafts.

TO ADVANCE WITHOUT DRAG ROPES.

Nos. 2 and 3 between muzzle and wheel, push at the axletree boxes, 4 and 5 man the gun wheels, 6 and 7 the splinter bar, 8 and 9 assist at the points of the shafts.

CHANGE OF POSITION OF DETACHMENTS.

TO FORM THE ORDER OF MARCH FROM DETACHMENT FRONT.

Officer.	*No. 1.*
Form the order of march.	*Right turn, Double march.*

"*Right turn, Double march,*" No. 1 turns with the detachment, takes a side pace to his left, allows the detachment to pass him, then doubles to his post; 2 and 3 wheel to their right and open out. Each number halts when at his post; they turn to the front together, looking to No. 2, who turns about immediately he arrives at his station.

TO FORM THE ORDER OF MARCH FROM DETACHMENT REAR, RIGHT OR LEFT.

Officer.	*No. 1.*
Form the order of march.	*Left turn, Double march.*

When the detachments are in rear, or on the right, they proceed direct; but when on the left they counter-march to the left. No. 1 heads the front rank. Each number halts when at his post.

TO CHANGE FROM FRONT TO REAR.

Officer.	*No. 1.*
Detachment rear.	*Left about wheel, Double march, Forward.* *Left about wheel, Forward, Halt.*

When the detachment is two yards in rear of the muzzle it halts.

TO CHANGE FROM REAR TO FRONT.

Officer.	*No.* 1.
Detachment front.	*Right incline, Double march, Forward.* *Left incline, Forward, Halt.*

When the detachment is clear of the gun it inclines to its left, when in line with the position of "*Detachment front*" "*Forward, Halt.*"

TO CHANGE FROM REAR TO RIGHT OR LEFT.

Officer.	*No.* 1.
Detachment right (left.)	*Right (left) incline, Double march.* *Forward, Halt.*

The detachment inclines to its front when one yard clear of the gun wheel, and halts when in line with the axletree.

TO FORM DETACHMENT REAR FROM THE ORDER OF MARCH.

Officer.	*No.* 1.
Detachment rear.	*Right about turn, Double march. Halt, Front.*

Nos. 2 and 3 close to the centre, and wheel to their left, marking time when opposite the off wheel and two yards from it; as soon as the detachment has closed up it is halted and turned to the front.

TO FORM DETACHMENT FRONT FROM THE ORDER OF MARCH.

Officer.	*No.* 1.
Detachment front.	*Double march.* *Halt, Front.*

No. 1 doubles out two yards in front of the off shaft, turns to his left, and gives the order "*Double march.*" Nos. 8 and 9 followed by the other Nos. double out. As soon as 8 is clear of the shafts he inclines towards 9. When 8 and 9 arrive in line with No. 1 they wheel to their left, and mark time; when the detachment is closed up, No. 1 gives

"*Halt, Front,*" turning himself to the front at the same time.

TO CHANGE ROUNDS WHEN THE GUN IS LIMBERED UP.

The detachment being at the "order of march" in changing rounds.

No.	2	becomes No.	4.
„	4	„ „	6.
„	6	„ „	8.
„	8	„ „	1.
„	1	„ „	9.
„	9	„ „	7.
„	7	„ „	5.
„	5	„ „	3.
„	3	„ „	2.

TO UNLIMBER.

Officer.	*No.* 1.
Action, Front.	*Action, Front.*
„ (*right.*)	„ (*right.*)
„ (*left.*)	„ (*left.*)
„ (*rear.*)	„ (*rear.*)

"*Action front,*" No. 5 unkeys; Nos. 1, 4, and 5 lift the trail; 1 and 5 at the trail eye, 4 on the right of 1; 2 and 3 man the wheels. When the trail is clear, No. 5 gives "*Limber—Drive on,*" the limber moves forward a yard, then reverses to the right, and the trail is carried round a half circle to the left, 1 and 4 shifting round the trail, as soon as the limber makes room, to avoid walking backwards. The numbers then place themselves as detailed for "action." When the limber is sufficiently to the rear, it reverses to the right, and halts ten yards in rear of the trail eye, covering the gun.

"*Action rear,*" the gun is unlimbered by the same Nos. as in "*Action front,*" but the trail is not thrown round; the limber moves forward one yard, inclines to its left and then reverses to its right and halts 10 yards from the trail eye, covering the gun.

"*Action right*" is the same as "*Action front,*" but the trail is carried round a quarter of a circle only, the limber drives on one yard, then takes ground to its left and reverses to its left.

"*Action left,*" the trail is taken to the right, No. 5 shifting round the end as soon as the limber makes room.

The limber takes ground to its right and reverses to its right.

In all unlimbering, except for action left, 4 should shift round the trail as soon as it is unhooked, so as to avoid walking backwards—at "*Action left*" 5 must do so.

When there are no horses, 6, 7, 8, and 9 attend to the limber, No. 9 is between the shafts, 8 at the point of the near shaft, 7 at the point of the off shaft, and 6 in rear of the limber.

No. 1 is responsible for the correct dressing of his gun when it comes into action.

POSITION AND GENERAL DUTIES.

No. 1 ships and unships the handspike, stands at the end of it, points, commands, bores, and fixes fuzes when the shells are fuzed at the gun, and hands them to 3, lifts at the end of the handspike, in running up and back.

Nos. 2 and 3 stand outside and in line with the front of wheels.

No. 2 sponges, rams home, and mans the right wheel.

No. 3 loads, uncaps, or removes safety pin from fuze, when in the bore, serves ammunition from axletree boxes, and mans the left wheel.

Nos. 4 and 5 stand in line with the breech, outside the wheels.

Fig. 2.

4 supplies 2 with sponge, and replaces it on the trail, serves and drifts the vent, pricks the cartridge, traverses at the end of the handspike, and mans the right wheel.

5 makes ready, fires, and mans the left wheel.

No. 6 stands five yards in rear of the left wheel, serves 3 with ammunition, hands shell to No. 1 when fuzed at the gun, lifts at the end of the handspike in running up or back.

No. 7 stands in rear of the off limber box, supplies cartridges and projectiles to 8, bores and fixes fuzes, when the shells are fuzed at the limber.

No. 8 stands in rear of the near limber box, supplies 6 with ammunition, and assists 7.

No. 9 attends to the ammunition wagon, and refills the gun limber from it when necessary. (Fig. 2.)

GENERAL DUTIES WITH REDUCED NOS.

3 Nos.

No. 1 points, commands, serves the vent, pricks the cartridge, makes ready, and fires; 2 sponges and rams home; 3 loads and traverses.

4 Nos.

No. 1 points, commands, makes ready and fires; 2 sponges and rams home; 3 loads; 4 serves the vent, pricks the cartridge, and traverses.

5 Nos.

No. 1 points and commands; 2 sponges and rams home; 3 loads; 4 serves the vent, pricks the cartridge, and traverses; 5 makes ready and fires.

6 Nos.

No. 1 points and commands; 2 sponges; 3 loads; 4 serves the vent; 5 fires; 6 supplies ammunition.

7 Nos.

No. 7 supplies ammunition to 6. The other Nos. as before.

8 Nos.

No. 8 assists 7 and supplies 6 with ammunition. The other Nos. as before.

ACTION.

Officer.	*No.* 1.
Action.	*Action.*

The gun being unlimbered at the word "*Action*" No. 1 ships the handspike, satisfies himself that the gun and its fittings are in good working order, and that the bore and vent are clear.

No. 2 turns to his left, receives the sponge from 4, and remains facing the gun with the sponge stave in his right hand, sloping at 45°, rammer head on the ground to the rear.

No. 3 turns to his right.

No. 4 turns to his left, steps in, unbuckles the sponge, and throws it over to 2, steps out again, and remains facing the gun.

No. 5 turns to his right, takes the lanyard out of his tube pocket, which is on his right side, and puts it under his belt.

No. 6 remains steady.

No. 7 prepares to issue ammunition.

No. 8 assists 7.

LOAD.

Officer.	*No. 1.*
Range — Yards. *With — Load.*	*With — Load.*

"*Load,*" No. 1 communicates the directions which he receives from the officer as to the nature of projectile to be fired to 6 and 7, and when time fuzes are used bores a fuze and inserts it in the shell brought to him by 6. He adjusts the scale of elevation and deflection, and, as soon as the gun is loaded, lays it as laid down at page 211. If the shell is fuzed at the gun he receives it from 6 and hands it to 3.

No. 2 takes an oblique pace to the right with the right foot, then an oblique pace to his left with his left, then a side pace of 30 inches to his right; he then enters the sponge head into the bore, shifts his left hand back under to the right, straightens right knee, forces the sponge up the bore until his hands meet the face of the piece, shifts his hands to the rammer head, and forces the sponge hard home, bending over the left knee. He then gives the sponge two half turns by first lowering his wrist and then raising it, at the same time pressing the sponge against the bottom of the bore. He next draws the sponge out about half its length, at the same time straightening the left knee and bending over on his right; then again bending over the left knee, and shifting his hands to the centre of the stave he bends outwards, withdrawing the sponge, and, with the left hand close to the head, turns the sponge, keeping the right hand fast, but turning the wrist, and throwing the sponge head upwards with the left hand, with which he seizes the stave at the rammer head. With light guns, the sponge and rammer are pressed home with one motion. When No. 3 has put in the charge, 2 introduces the rammer head, brings his left hand to his right,

and forces the charge home in two motions (as in sponging), at the second motion throwing in the weight of his body, both arms extended as far as possible so as to keep his body clear of the muzzle. He then quits the stave, and brings his right foot to his left, so as to be clear of the muzzle, while No. 4 pricks the cartridge. Directly the cartridge is pricked he springs the sponge by jerking it out with his right hand, stepping to the right, and allowing the stave to slide through his hand; he then grasps it firmly in the middle with the right hand, and at the rammer head with the left, both knees straight. Should the cartridge not be home he presses the charge home again, and quits the stave as before. When the cartridge is home he springs the sponge as above directed, and steps back outside the wheel, first with his right foot, then with his left, and brings the right heel to the left; he brings the sponge stave to the slope and the left hand to the side in the first motion of stepping back and remains facing the gun.

No. 3 slews his body to his right, and brings his hands together to receive the ammunition from 6, the cartridge in his right, the projectile in his left hand, backs of both hands down. As soon as the sponge is withdrawn he steps up to the muzzle, and puts in the ammunition, taking care that the choked end of the cartridge is next the projectile, and that the seam does not come under the vent; he then steps back to his former position. If firing shell he uncaps the fuze or removes the safety pin when the shell is in the bore. When shells are fuzed at the gun he receives them from No. 1.

No. 4 steps in, turns to his right, and places his left thumb on the vent, keeping his elbow raised, and his fingers on the left side of the gun, his right hand holding the pricker, which he has previously taken from the loop. When the gun is loaded he pricks the cartridge. Should the cartridge not be home, he says "*Not home.*" If home, he replaces the pricker, and after No. 2 has sprung the sponge he places himself at once at the end of the handspike, and stands ready to traverse.

No. 5 takes the lanyard from his belt, and hooks a tube to it, holding the lanyard in the left, the tube in the right hand.

No. 6 doubles back and gets a round of ammunition from 8, taking the projectile in his right and the cartridge in his left hand, back of both hands up, choke end of cartridge against base of projectile, the cartridge covered by the right

arm, carries them up, and gives them to 3; he then returns to 8 for another round, and halts at his own station till the gun is fired. When shells are fuzed at the gun he hands them to No. 1, the cartridges to 3, and returns for ammunition.

No. 7 attends at the limber and issues ammunition. When firing shells, to be fuzed at the gun, he loosens the plug; if the shell is fuzed at the limber he prepares and fixes the fuze. He should take care that the limber box is open as short a time as possible.

No. 8 assists 7 and issues ammunition to 6, which he gets from 7, holding the cartridge in his right and the projectile in his left hand, back of both hands down, choke end of cartridge against base of projectile.

TO LAY THE GUN.

Officer.	*No.* 1.
	Trail (right).
	„ *(left).*
	Halt.

No. 1 looking over the sights, gives the necessary elevation with the elevating screw, and "*Trail Right or Left*" as required, then lowers the tangent scale.

No. 4 traverses with the handspike as directed.

TO MAKE READY AND FIRE.

Officer.	*No.* 1.
Fire one round.	*Ready.*
	Fire.
	Run up or back.
	Halt.

"*Ready,*" which No. 1 gives as soon as he has layed the gun, he steps clear of the wheel to that side where he can best observe the effect of his shot; 5 steps to the gun, and presses the tube into the vent with his right thumb; steps outside the wheel, shifts the lanyard to his right hand, and extends it looking to No. 1, keeping his hand level with the vent.

No. 4 resumes his position outside the wheel.

"*Fire,*" No. 5 draws the lanyard strongly towards his body without a jerk, and replaces it under his belt.

In the event of a missfire, No. 5 will go round to the front of the axletree on his own side, and from there drop in another tube, keeping clear of the muzzle, resuming the position of "*Ready.*"

No. 4, after the gun has been fired, steps in and clears the vent.

As soon as the gun is fired, No. 1, if necessary, gives the order "*Run up,*" Nos. 2, 3, 4, and 5 man the wheels facing them, and turning them by means of the spokes, Nos. 1 and 6 lifting at the handspike. Should it be necessary to run the gun back, No. 1 gives "*Run back,*" when the same numbers move the gun. At "*Halt,*" each number returns to his place.

TO UNLOAD.

Officer.	*No.* 1.
	Unload.

At drill as soon as the gun is fired No. 1 gives "*Unload.*"

Nos. 2 and 3 man the wheels.

Nos. 1, 4, and 5 raise the trail until the drill ammunition falls out.

No. 6 takes back the ammunition to the limber.

When using a shell with lanyard, No. 3 hauls out the projectile and then mans the wheel.

TO CEASE FIRING.

Officer.	*No.* 1.
Cease firing.	*Cease firing.*

"*Cease firing,*" No. 1 unships the handspike and buckles it on the trail, setting the scales at zero.

No. 2 throws the sponge over to 4, and turns to his right.

No. 3 turns to his left.

No. 4 receives the sponge from 2, putting the rammer head through the iron loop, and buckles the stave on the

trail, and resumes his position outside the wheel turning to the front.

No. 5 turns to his left, and replaces the lanyard in the tube pocket.

No. 6 gives his ammunition to 7, and falls into his place.

No. 7 replaces ammunition. If shells have been prepared, he removes the fuzes, replacing them in their boxes, having previously inserted the safety pin into the percussion fuze, and screws the metal plug into the shell.

No. 8 assists 7.

TO CHANGE ROUNDS IN ACTION.

Officer.	*No.* 1.
Change rounds.	*Change rounds.*

In changing rounds, No. 2 becomes 4, 4 7, 7 9, 9 8, 8 6, 6 1, 1 5, 5 3, 3 2.

TO LIMBER UP.

Officer.	*No.* 1.
Front, limber up.	*Front, limber up.*
(*Right*) „	(*Right*) „
(*Left*) „	(*Left*) „
(*Rear*) „	(*Rear*) „
	Halt, limber up.

Limbering up may be done either to the front, rear, right, or left.

"*Front Limber up,*" No. 4 places himself at the trail eye, No. 1 on his left, 5 on the left of No. 1, they lift the end of the trail, carry it round a half circle to the right, and lower it gently to the ground. Nos. 2 and 3 man the wheels, if necessary assisted by 6 and 7. As soon as the trail is round, Nos. 2 and 3 get under cover between the muzzle and the wheels; 4 and 5 between the breech and the wheels; 6 and 7 in front of 4 and 5; the whole with their backs to the axletree. The limber comes up on the right of the gun, and when it is square, No. 1 gives

"*Halt, Limber up,*" 4 and 5 lift the trail by the handles; 2, 3, 6, and 7 man the wheels. When the trail is on the hook, No. 5 keys, and the detachment forms the order of march.

"*Rear Limber up,*" the Nos. perform the same duties, but the limber reverses to the left, as soon as it arrives at the trail, which is not thrown round. "*Right Limber up*" is the same as "*Front Limber up,*" except that the trail is only carried round a quarter circle.

"*Left Limber up,*" No. 5 places himself at the trail eye, No. 1 on his right, 4 on the right of No. 1; the trail is carried round a quarter circle to the left.

SECTION 2.—DRILL WITH R. B. L. ORDNANCE.

The detachment consists of one non-commissioned officer and eight gunners, and falls in two deep in rear of the gun, which is limbered up.

TO TELL OFF.

Officer.	*No.* 1.
Tell off.	

"*Tell off,*" No. 1 (who is on the right of the detachment) takes a pace to his front, turns to his left, and numbers himself 1; the right-hand man of the front rank numbers 2; the right-hand man of the rear rank 3; the second man from the right of the front rank 4; the man in his rear 5, and so on; after the detachment is told off, No. 1 falls in again on the right of the front rank. No. 1 then straps on the fuze pocket on his right side, and 2 the tube pocket.

The front is that direction in which the gun is pointed when unlimbered, or to which, when limbered up, the horses' heads are turned.

POSITION OF DETACHMENT WHEN LIMBERED UP.

IN ORDER OF MARCH.

No. 1 in line with the point of the near shaft and two yards on its left.

Nos. 2 and 3 in line with the axletree of the gun carriage.

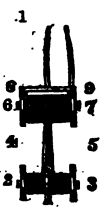
Nos. 4 and 5 in line with the centre of the trail.

Nos. 6 and 7 in line with the axletree of the limber.

Nos. 8 and 9 in line with the splinter bar.

The Nos. stand covering, one yard from the wheels. (Fig. 1.)

Fig. 1.



IN FRONT.

Two deep two yards in front of the shafts.

IN REAR.

Two deep two yards in rear of the muzzle of the gun.

RIGHT OR LEFT.

Two deep in line with the gun axletree, one yard to the right or left of the wheel.

The same instructions apply for "*Mounting*" and "*Dismounting*" as laid down above for R. M. L., the numbers being shifted to work the different descriptions of ordnance.

EXERCISE WITH DRAG ROPES.

The same as at R. M. L. Ordnance.

TO ADVANCE WITHOUT DRAG ROPES.

The same as at R. M. L. Ordnance.

CHANGE OF POSITION OF DETACHMENTS.

The same as R. M. L.

TO UNLIMBER.

Officer.	*No. 1.*
Action front.	*Action front.*
„ (*right.*)	„ (*right.*)
„ (*left.*)	„ (*left.*)
„ (*rear.*)	„ (*rear.*)

"*Action front,*" No. 2 unkeys; Nos. 1, 2, and 3 lift the trail, 2 and 3 next to the trail eye; 4 and 5 man the wheels. When the trail is clear No. 2 "*Limber drive on;*" the limber moves forward a yard, then reverses to the right, and the trail is carried round a half circle to the left, and 3 shifting round the trail, as soon as the limber makes room, to avoid walking backwards. The Nos. then place themselves as detailed for action. When the limber is sufficiently to the rear it reverses to the right, and halts ten yards in rear of the trail and covering the gun.

"*Action rear,*" the gun is unlimbered by the same numbers as in "*Action front,*" but the trail is not thrown round; the limber moves forward one yard, inclines to its left, and then reverses to its right, halts 10 yards in rear of the trail, covering the gun.

"*Action right*" is the same as "*Action front,*" but the trail is carried round a quarter of a circle only; the limber drives on one yard, then takes ground to its left, and reverses to its left.

"*Action left,*" the trail is taken to the right, No. 2 shifting round the end of the trail as soon as the limber makes room, and the limber takes ground to its right, and reverses to its right.

In all unlimbering, except for action left, 3 should shift round the trail as soon as it is unhooked, so as to avoid walking backwards—at "*Action left*" 2 must do so.

When there are no horses, 6, 7, 8, and 9 attend the limber; No. 9 is between the shafts; 8 at the point of the near shaft; 7 at the point of the off shaft; and 6 in rear of the limber.

No. 1 is responsible for the correct dressing of his gun when it comes into action.

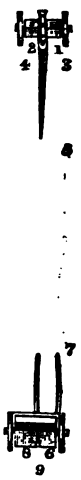
POSITION AND GENERAL DUTIES.

No. 1 stands on the right side of the gun, between the breech and wheel, points, commands, and bores and fixes fuzes when the shells are fuzed at the gun.

No. 2 stands on the left side of the gun between the breech and wheel, screws up and unscrews the breech, puts in and takes out the vent-piece, makes ready and fires.

No. 3 stands one yard in rear of and covering the right wheel, ships and unships the handspike, withdraws safety pin of fuze, loads and traverses with the handspike.

Fig. 2.



No. 4 stands one yard in rear of and covering the left wheel, sponges when necessary and rams home.

No. 5 stands five yards in rear of the right wheel, and supplies 3 with shell and cartridges from 7.

No. 6 stands in rear of the off limber box, bores and fixes fuzes when the shells are fuzed at the limber, prepares and serves out shell and cartridges to 7.

No. 7 stands ten yards in rear of 5, and supplies him with ammunition from 6.

No. 8 stands in rear of the near limber box, and assists 6.

No. 9 attends the ammunition wagon, and refills the gun limber from it when necessary.

GENERAL DUTIES WITH REDUCED NOS.

2 Nos.

No. 1 points, commands, serves ammunition, makes ready, and fires.

No. 2 sponges, rams home, takes out and puts in vent-piece, screws up, and unscrews the breech, traverses with handspike.

3 Nos.

No. 1 points, commands, makes ready, and fires.

No. 2 screws up and unscrews the breech, takes out and puts in the vent-piece, sponges, and rams home.

No. 3 serves ammunition, and traverses with the handspike.

4 Nos.

No. 1 points and commands.

No. 2 screws up and unscrews the breech, puts in and takes out the vent-piece, makes ready, and fires.

No. 3 serves ammunition, and traverses with the handspike when necessary.

No. 4 sponges and rams home.

5 Nos.

No. 1 points and commands; 2 screws up and unscrews the breech, takes out and puts in the vent-piece, makes ready, and fires; 3 loads and traverses; 4 sponges and rams home; 5 supplies ammunition.

6 Nos.

As with 5 Nos., except No. 6, who supplies 5 with ammunition from the limber.

7 Nos.

As with 5 Nos., in addition No. 6 supplies 7 with ammunition from the limber; 7 supplies ammunition from 6.

8 Nos.

As with 7 Nos., and No. 8 assisting 6 at the limber.

ACTION.

Officer.	*No.* 1.
Action.	*Action.*

The gun being unlimbered at the word "*Action,*" No. 1 satisfies himself that the gun and its fittings are in good working order, and that the bore and vent are clear, then faces the gun.

No. 2 turns to his right, takes the lanyard out of his tube pocket, which is on his right side, puts it under his belt, then (when water is used) takes the plug out of the bucket.

No. 3 turns to his left, ships the handspike, and remains facing the trail one pace to the left of 1.

No. 4 turns to his right, takes an oblique pace to his left front, unbuckles the sponge, and remains facing the trail with the sponge stave in his right hand, sloping at 45°, rammer head on the ground to the rear.

No. 5 remains steady.

No. 6 prepares to issue ammunition.

No. 7 remains steady.

No. 8 assists 6.

LOAD.

Officer.	*No. 1.*
Range — yards. *With — Load.*	*With — Load.*

"*Load,*" No. 1 communicates the directions which he receives from the officer as to the nature of the projectile to be fired by 5 to 6, and when time fuzes are used bores a fuze and inserts it in the shell brought to him by 5. When satisfied that the bore is clear he allows the loading to proceed, he adjusts the scale of elevation and deflection, and as soon as the gun is loaded lays it as laid down at page . If the shell is to be fuzed at the gun, No. 1 will receive it from 5, and hand it to 3.

No. 2 unscrews the breech with his right hand, back down, forcing the lever from him, takes out the vent-piece with his left hand, and cleans it. As soon as the gun is loaded, drops the vent-piece into the slot, face to the front, removes his left hand, screws up the breech with his right, back up, giving the cam two taps with the lever. He then removes the lanyard from his belt, hooks on a tube, back of the hook down, and holds the tube in his right hand, the lanyard in his left.

No. 3 receives a shell from 5, withdraws the safety pin of fuze, and places the shell in the bore, the point to the front. He then receives a cartridge from 5, and when the shell has been rammed home he places it in the bore, choked end to the front, and falls back to the end of the handspike ready to traverse.

No. 4, when sponging is required, brings the sponge horizontal, the left hand back under, the right hand back up, and the sponge head to the front; takes a pace to the left with his left foot, puts the sponge into the bucket, then sponges out the gun thoroughly, and withdraws the sponge, keeping it horizontal while No. 1 examines the bore. He then reverses the sponge, places the rammer head against the base of the shell, slips the left hand to the right, sees that the stave is in prolongation of the axis of the gun, and forces the shell into the chamber. The drill shot should be projected about three yards from the muzzle when the axis of the gun is horizontal. He then springs the stave, and as soon as No. 3 has put in the cartridge

presses it gently home, withdraws the stave, brings it to the slope as before, and steps to the rear clear of the wheel.

No. 5 doubles back and gets a round of ammunition from 7, taking the shell in his right hand, point to the left, and the cartridge in his left hand, back of both hands up, the cartridge covered by his right arm; places himself on the left of 3, gives him first the shell and then the cartridge; he then returns to 7 for another round, and halts at his own station till the gun is fired.

No. 6 attends at the limber and issues ammunition. When firing shells to be fuzed at the gun, he loosens the plugs, if the shell is fuzed at the limber he prepares and fixes the fuze; he is assisted by 8, and should take care that the limber box is open as short a time as possible.

No. 7 doubles to the limber and gets a round of ammunition from 6, shell in his left hand, cartridge in his right, backs of both hands down, the cartridge covered by his left arm, carries them up and gives them to 5; he then returns to 6 for another round, and halts at his own station till the gun is fired.

TO LAY THE GUN.

Officer.	*No.* 1.
	Trail (right).
	" *(left).*
	Halt.

No. 1 looking over the sights gives the necessary elevation with the elevating screw, and "*Trail right or left*" as required, using the traversing screw himself for final adjustment, then lowers the tangent scale.

No. 3 traverses with the handspike as directed.

TO MAKE READY AND FIRE.

Officer.	*No.* 1.
Fire one round.	*Ready.*
	Fire.
	Run up or back.
	Halt.

"*Ready*," which No. 1 gives as soon as the laying is complete, he steps clear of the wheel to that side where he can best observe the effect of his shot, 3 also steps clear of the recoil and resumes his position at the gun after firing.

No. 2 steps to the gun, and presses the tube into the vent with his right thumb; steps outside the wheel, shifts the lanyard to his right hand, and extends it, looking to No. 1, and keeping his hand level with the vent.

"*Fire*," No. 2 draws the lanyard strongly towards his body without a jerk, and replaces it under his belt.

As soon as the gun is fired, No. 1, if necessary, gives "*Run up*," Nos. 1 and 2 push at the axletree, 4 and 5 man the wheels facing them, 3 lifting at the handspike; should it be necessary to run the gun back, No. 1 gives "*Run back*," when the same numbers move the gun. At "*Halt*," each number resumes his place.

In the event of a miss-fire a second tube will be inserted as with R.M.L. guns; if this again fails, and it is necessary to take out the vent-piece, time must be allowed to elapse before the breech-screw is unscrewed, and then the vent-piece removed quickly, the arm and body being kept clear of the breech.

TO CEASE FIRING.

Officer.	*No.* 1.
Cease firing.	*Cease firing.*

"*Cease Firing*," No. 1 places the traversing bar in the centre of the carriage, the scales at zero.

No. 2 replaces the plug in the bucket (if water has been used), the lanyard in the tube pocket.

No. 3 unships the handspike and buckles it on the trail.

No. 4 buckles the sponge on the trail.

No. 5 doubles to the rear with his ammunition to 7.

No. 7 gives his own ammunition, and then that of 5 to 6.

No. 6 replaces the ammunition in the limber box, assisted by 8. If a shell has been prepared he removes the fuzes, replaces them in their respective boxes, having previously inserted the safety pins, and screws the metal plug into the shell.

The whole of the numbers resume their places at the gun, facing to the front.

TO CHANGE ROUNDS IN ACTION.

Officer.	*No.* 1.
Change rounds.	*Change rounds.*

In changing rounds, No. 1 becomes 3, 3 5, 5 7, 7 9, 9 8, 8 6, 6 4, 4 2, 2 1. No. 2 changes by the front.

TO LIMBER UP.

Officer.	*No.* 1.
Front limber up.	*Front limber up.*
(*Right*) „	(*Right*) „
(*Left*) „	(*Left*) „
(*Rear*) „	(*Rear*) „
	Halt, limber up.

"*Front Limber up,*" No. 1 places himself at the trail eye, 3 on his left, 2 on the left of 3; they lift the end of the trail, carry it round half a circle to the right, and lower it gently to the ground. Nos. 4 and 5 man the wheels. As soon as the trail is round, Nos. 2 and 3 get under cover between the breech and the wheels; 4 and 5 between the muzzle and the wheels; the whole with their backs to the axletree. The limber comes up on the right of the gun; and when it is square No. 1 gives "*Halt, Limber up.*" Nos. 2 and 3 lift the trail by the handles; 4 and 5 man the wheels. When the trail is on the hook, No. 2 keys, and the detachment forms the order of march.

"*Rear Limber up,*" the Nos. perform the same duties, but the limber reverses to the left as soon as it arrives at the trail, which is not thrown round.

"*Right Limber up*" is the same as "*Front Limber up,*" except that the trail is only carried round a quarter circle.

"*Left Limber up,*" No. 2 places himself at the trail plate eye, 3 on his right, No. 1 on the right of 3; the trail is carried round a quarter circle to the left.

For "MOUNTING AND DISMOUNTING FIELD ORDNANCE," "TO MOVE DISABLED ORDNANCE," "ROCKETS," &c. see page 235.

SECTION 3.

FORMATION OF A BATTERY OF HORSE ARTILLERY.

A Battery of Horse Artillery consists of 6 pieces of ordnance. The men required for the service of each piece, are:

Eight or ten mounted men, of which two are non-commissioned officers.

The mounted men are numbered off as follows. viz.—

M.L.	Front Rank	2. 12.* 3. 1.
	Rear Rank	7. 13.* 6. 11.*
M.L.	Front Rank	2. 12.* 3. 10. 1.
	Rear Rank	7. 13.* 6. 14.* 11.*
B.L.	Front Rank,	5. 12.* 4. 1.
	Rear Rank,	6. 13.* 7. 11.*

* This mark denotes horse holders.

No. 1 is the senior non-commissioned officer. No. 11 is the coverer.

Each piece of ordnance is attended by an ammunition waggon, on the limber of which two men are mounted, numbered 8 and 9.

The non-commissioned officers and mounted men are called a detachment, which is placed in front, rear, or on a flank of their guns, according to circumstances.

When the number of men attached to a gun is reduced, 5, 6, 7, can be best spared— the gun continuing in action

without them, by 3 going to the rear for ammunition, and 1 doing the duty of 5, in addition to his own. In action Nos. 11, 12, 13 continue mounted in charge of horses; No. 11 leads the horse of No. 1 to the rear; No. 12 those of 2 and 3; and 13, those of 6 and 7, when subalterns dismount they give their horses to the centre drivers of their right subdivisions.

When a detachment is reduced to six men, they are numbered:—

3	12*	1	12 and 11 being horse holders.
2	11*	6	

A battery forms in line with its guns on the right of the detachments, the lead drivers half a horse's length on the right of No. 1, the rear rank half a horse's length from the front rank.

The distance of guns from their detachments is as follows:—

In rear.	Lead drivers one horse's length in rear of their detachments covering the centre.
On a flank.	Half a horse's length from the flank of their detachments, dressing by the front rank.
In front.	Detachments one horse's length in rear of, covering their guns.
At order.	Three horses' lengths in rear of the rear rank previous to its reining back, or one horse's length after reining back.

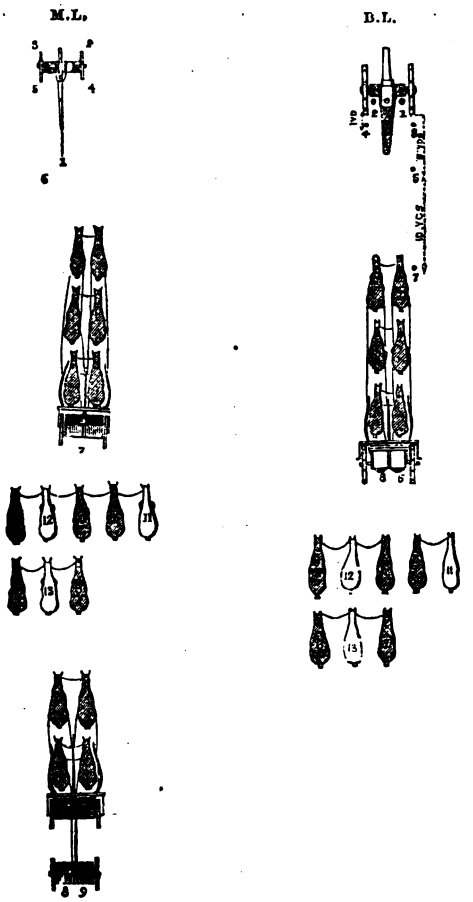
DETACHMENTS.

The distance of ranks is taken from the head of the rear horse to the tail of the front.

Close Order.	One horse's length, when marching past, or when the battery is in line with detachments front for Inspection or Review, and when detachments are at close interval in front of their guns.
	Half a horse's length when manœuvring, or with detachments on a flank.
Order.	Three horses' lengths.

When detachments are at close interval in front of their guns there is a distance of one horse's length between ranks, and six inches from knee to knee between files.

To diminish the front each detachment is told off into right and left half sections, the order is given to advance from the right, or left, by half sections.



DIMINISHING THE FRONT OF A COLUMN OF SUBDIVISIONS.

When it is necessary with a column of subdivisions, detachments on the flank, to decrease the front, it is done by ordering the detachments in front or rear of their guns; if more is required, by advancing from the right or left of detachments as above.

TO TAKE ORDER.

"*Take order*" is a caution, Nos. 11 of the flanks of batteries move to the rear, halt and front three horses' lengths

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PLATE XIX.

BATTERY IN LINE WITH DETACHMENTS IN FRONT TO CHANGE DETACHMENTS TO THE REAR.

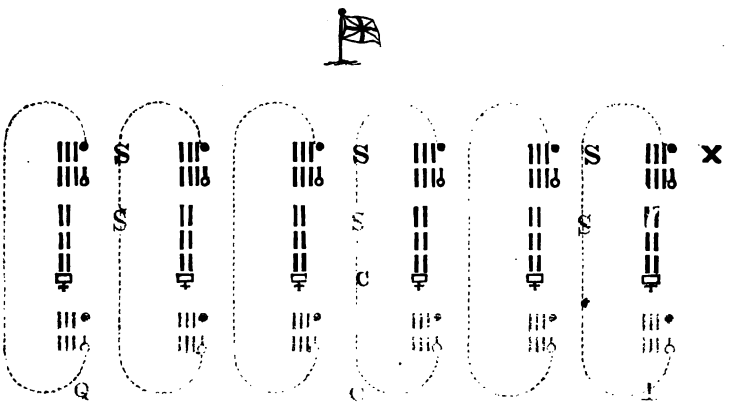
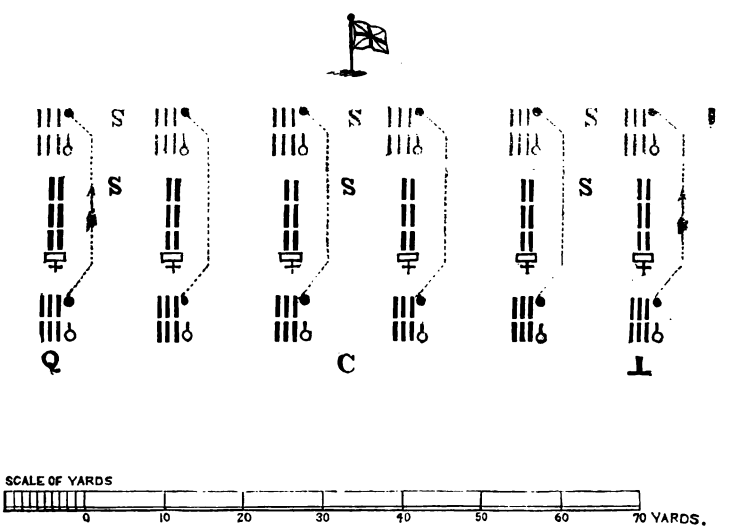


PLATE XX.

BATTERY IN LINE WITH DETACHMENTS REAR TO CHANGE DETACHMENTS TO THE FRONT.



from the front rank. At the word "*March,*" the rear rank reins back, and is dressed on the Nos. 11, by the Adjutant or Serjeant-Major. The subalterns advance one horse's length, the Majors are one horse's length in front of them.

CLOSE ORDER.

"*Close order—March.*" At the word "*March,*" the rear rank, guns and wagons, move forward to close order at the trot. Officers resume their posts, unless the battery is to march past.

DETACHMENTS TO WHEEL BACKWARDS.

"*Detachments on the left, Backwards wheel—March.*" At the word "*March,*" the detachments wheel back on the left files, of the front rank, as pivots, who turn their horses gradually round on their forehand, bringing the remainder of the detachment round with them. When the detachment is square No. 1 gives the word "*Halt,*" "*Dress.*"

TO CHANGE POSITION OF DETACHMENTS.

To change from Front to Rear. (Plate XIX.)

Commanding Officer.	Officers.	Nos. 1.
Detachments Rear — March.		*Left about Wheel.* *Left about Wheel—Halt.*

The officers rein back, and take post in the centre of their divisions, in line with lead drivers.

To change from Rear to Front. (Plate XX.)

Commanding Officer.	Officers.	Nos. 1.
Detachments Front — March.		*Right Incline — Forward.* *Left Incline—Forward.* *Halt.*

Officers take post in the centre, between their detachments, in line with the front rank.

To change from Rear to Left.

Commanding Officer.	Officers.	Nos. 1.
Detachments Left — March.		*Left Incline—Forward.* *Halt.*

Detachments ordered from the rear to the right, the detachments incline to the right.

To change from Front to Left.

Commanding Officer.	Officers.	Nos. 1.
Detachments Left — March.		*Left about Wheel. Left about Wheel. Halt.*

Detachments ordered from the front to the right, wheel about to the right.

To change from Right to Left. (Plate XXI.)

Commanding Officer.	Officers.	Nos. 1.
Detachments Left — March.		*Right about Wheel— Right Wheel—Right Wheel Up—Halt.*

Officers remain between their subdivisions.

Changing detachments from the left to the right, is the reverse of the preceding.

Instead of ordering the detachments, it is sometimes more convenient to order the guns to the front, rear, or flank, in which case the principle is the same, excepting that when detachments incline, the drivers are ordered to throw shoulders forward. The situations of guns and detachments, with respect to each other, may sometimes be altered when a line is moving, and the change is invariably to be effected by the part named; for instance, if a line is advancing with detachments in rear, and the word of command, "*Detachment Left,*" is given, the guns keep moving on at the same rate. The detachments are ordered to incline to the left at the next increased pace, and when the front rank is in line, are ordered by their respective Nos. 1 to resume the former pace.

If detachments are in front, and the guns are ordered on a flank, they are ordered "*Shoulders*" forward at an increased pace, on the same principle as above. If detachments are in front, and they are ordered to the rear, when a battery is moving (which may be very well done when the pace does not exceed a moderate trot), they incline briskly to the left, and halt till the gun has passed them; they then incline to the right at an increased pace, and move on in rear of their guns.

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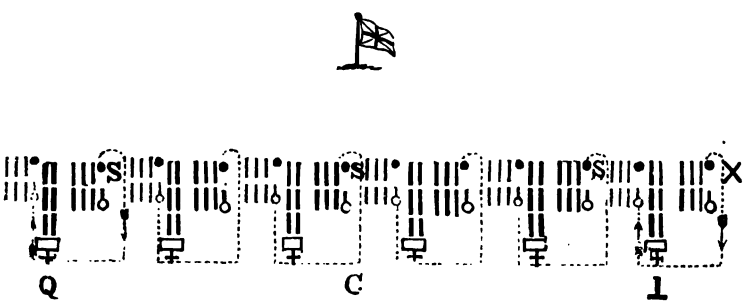
PLATE XXI.

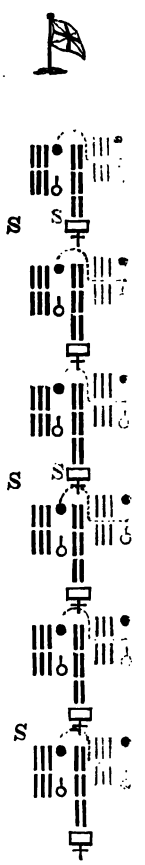
BATTERY IN LINE WITH DETACHMENTS ON THE RIGHT TO CHANGE DETACHMENTS TO THE LEFT.



To face Page 311.

PLATE XXII.

A COLUMN OF SUBDIVISIONS HALTED, WITH DETACHMENTS ON THE LEFT TO CHANGE DETACHMENTS TO THE RIGHT.



As a general rule (subject only to exceptions hereafter named), whatever is ordered from the rear to the front, does so, going by the right, and from front to the rear by the left.

If detachments are in front, or on a flank, and it is intended the line should advance with them in rear of their guns, the most expeditious manner of doing it is to order the line to advance with "*Guns Front;*" on the word "*March*" the guns move off at the pace ordered, the detachments taking care, immediately they have passed, to incline till they cover their respective guns.

When a line, with guns in front, receives a caution to advance, the coverers place themselves on the right of their lead drivers, and are responsible for dressing and intervals; on the word "*Halt*" they resume their former places.

In taking ground, the detachments, if on a flank, wheel with their guns, if in front or rear they wheel on their own ground independently.

A Column of Subdivisions halted, with Detachments on the Left to change Detachments to the Right. (Plate XXII.)

Commanding Officer.	Officers.	Nos. 1.
Detachments Right—March.		*Single File Right—Right Wheel—Left Wheel—Left Form—Halt.*

When detachments are ordered from the right to the left, it is done by filing from the left. Immediately the leading files have passed through the intervals, they lead so that the detachments may at once be dressed on the lead driver, when the word "*Form*" is given. Detachments may also be changed in the same manner when the column is moving at a walk; care being taken not to impede the guns. In open column of a larger front than subdivisions, the flanks are shifted as in line, in column by "*Filing.*"

SECTION 4.—MANŒUVRES OF A BATTERY.

MOVEMENTS FROM LINE.

No. 1.—FROM LINE TO COME INTO ACTION.

Commanding Officer.	Officers.	Nos. 1.
Action Front.		*Dismount.*

At the word "*Action Front*" the Nos. 1 order their detachments to "*Dismount,*" when, with the exception of

the horse-holders, the whole dismount [Nos. 4 and 5, by throwing their legs over the guard irons dismount to the rear of the limber]. Nos. 1, 2, 3, 6, and 7 give their bridoon reins to the horse-holders, leave their horses by the rear and double to their places in "Action" at their guns. No. 5 unkeys the trail, and when clear of the limber hook gives the word "*Limber Drive On*;" 4 and 5 throw the trail round a half circle to the left.

Nos. 11, who have charge of the led horses and limbers, give the words "*Right about Wheel*," "*Forward*," and after going sufficiently to the rear, "*Right about Wheel*" again, at which time they drop with their led horses in rear of the limbers, which are always to be next their guns, the lead drivers advance on the Nos. 7, who, as soon as the trails are carried round, post themselves 10 yards in rear of the left wheel of their guns.

In going to the rear the led horses and limbers trot until the limber axletrees are in line with those of the guns, when they walk and proceed to the rear dressing by the limber of the right gun. The whole of the Nos. 11 look to the serjeant-major for a signal (or command) before giving the second "*Right about Wheel*," when they advance and halt together, the serjeant-major dressing them from the right.

With "Detachments," "Front," "Rear," or "Right," the same general rules apply; the words of command for the Nos. 11 being as follows:—With "Detachments Front," "*Right Reverse*," "*Right about Wheel*," "*Halt*," "*Dress*."

With "Detachments Rear," "*Right Reverse*," "*Right Reverse*," "*Halt*," "*Dress*."

With "Detachments Right," "*Left about Wheel*," "*Forward*," and when sufficiently to the rear, "*Left about Wheel*," "*Halt*," "*Dress*." In this case the trail is brought round by the right.

The situation of the subalterns when in action depends on circumstances.

ACTION REAR.

In "Action rear," the gun is unlimbered by the same numbers as in "Action front," but the trail is not thrown round. The words of command for the Nos. 11 are, with "Detachments Left," "*Left Incline*," "*Forward*," "*Right about Wheel*," "*Halt*," "*Dress*," the led horses dropping in rear of the limbers.

With "Detachments Rear," "*Left Incline*," "*Forward*," "*Right about Wheel*," "*Halt*," "*Dress*."

With "Detachments Right," "*Right Incline*," "*Forward*," "*Left about Wheel*," "*Halt*," "*Dress*," the led horses dropping in rear of the limbers.

In retiring, detachments should never be in front.

ACTION RIGHT.

In "Action Right" the gun is unlimbered by the same numbers, but the trail is carried round a quarter of a circle to the left. The words of command for the Nos. 11 are,—

With "Detachments Left," "*Left Wheel*," "*Forward*," "*Right Shoulders Forward*." "*Forward*," "*Right about Wheel*," "*Halt*," "*Dress*," the led horses dropping in rear of the limbers.

With "Detachments Front," "*Left take Ground*," "*Left about Wheel*," "*Halt*," "*Dress*," the led horses dropping in rear of the limbers.

With "Detachments Rear," "*Left take Ground*," "*Left about Wheel*," "*Halt*," "*Dress*," the led horses wheeling to the right about in rear of the limbers.

With "Detachments Right," "*Left Wheel*," "*Forward*," "*Left about Wheel*," "*Halt*," "*Dress*," the led horses dropping in rear of the limbers.

ACTION LEFT.

The gun is unlimbered as in action front, but the trail is carried round a quarter of a circle to the right.

The words of command for the Nos. 11 are, with "Detachments Left," "*Right Wheel*," "*Forward*," "*Right about Wheel*," "*Halt*," "*Dress*," the led horses dropping in rear of the limbers.

With "Detachments Front," "*Right take Ground*," "*Right about Wheel*," "*Halt*," "*Dress*," the led horses dropping in rear of the limbers.

With "Detachments Rear," "*Right take Ground*," "*Right about Wheel*," "*Halt*," "*Dress*," the led horses wheeling to the left about in rear of the limbers.

With "Detachments Right," "*Right Wheel*," "*Forward*," "*Left Shoulders Forward*," "*Forward*," "*Left about Wheel*," "*Halt*," "*Dress*," the led horses dropping in rear of the limbers.

LIMBERING UP.

The following rules are to be observed in limbering up:—

At the word "*Front Limber Up*," the limbers pass by the right of the guns, and the led horses (unless otherwise

ordered) are taken at once to the left of their guns; as soon as the trail is on the hook, Nos. 1 give the order "*Prepare to Mount,*" the detachments double to their horses, coming round by their heads; at the word "*Mount,*" the whole mount [Nos. 4 and 5 on the limbers].

"*Rear Limber Up.*" The drivers take their limbers a little to the right of the trails of their guns, and when close to them wheel sharply to the left about and are immediately halted; the led horses incline sufficiently to the right to enable them to wheel left about, and form on the left of their gun leaders.

"*Right Limber Up.*" The detachments form on the right of their gun leaders.

"*Left Limber Up.*" The detachments form on the left of their guns.

In limbering up, especially when the succeeding movement is not foreseen, it will be found advantageous in most instances to limber up to the front with detachments left; from this situation there is scarcely a movement which cannot be performed; the left flank is, in general, preferred to the right, because the Nos. 1 are on the right of their detachments, and are thereby close to their leading drivers.

From these rules it will appear that when limbered up to the front, rear, or left, the detachments will be on the left, and when to the right, on the right of their guns. If the commanding officer wishes the detachments to be otherwise placed, he names the flank or position he means the led horses to be taken to; for instance, if, in limbering up to the front, he requires the detachments on the right instead of the left, he gives "*Detachments Right—Front Limber Up.*"

No. 2.—FROM LINE TO ADVANCE.

Commanding Officer.	Officers.	Nos. 1.
The Battery will advance —March.		

When advancing in line, the No. 1 of the subdivision of direction will take up points on which to march, the other Nos. 1 taking their intervals from, and dressing by him.

No. 3.—FROM LINE TO RETIRE.

Commanding Officer.	Officers.	Nos. 1.
Subdivisions Right about Wheel—March —Forward.		

Officers and staff serjeants turn about on their own ground.

The detachments go about with their guns.

No. 4.—From Line to take Ground to a Flank.

Commanding Officer.	Officers.	Nos. 1.
Subdivisions Right (or Left) Wheel—March.		

At the word "*March,*" each carriage wheels—officers and staff serjeants shift to their places in column of subdivisions.

If the detachments are on a flank they wheel with their guns. If in front or rear they wheel independently on their own ground.

No. 5.—From Line to Incline.

Commanding Officer.	Officers.	Nos. 1.
Right (or Left) Incline —March.		

At the word "*March,*" No. 1 subdivision must be careful to make the incline correctly; the lead driver of No. 2 dresses on the axletree of No. 1 gun, 14 yards distant; the lead driver of 3 dresses on the axletree of 2 gun, and so on.

With wagons the lead driver of No. 1 wagon dresses by his left on the axletree of 1 gun, and 14 yards from it; the lead driver of 2 wagon dresses on the axletree of 1 wagon body, and covers 1 gun, and so on.

"*Left Incline*" is done on the same principle.

To resume the original direction the word is "*Forward.*"

No. 6.—From Line to Diminish (or Increase) Intervals on the Move.

Commanding Officer.	Officers.	Nos. 1.
(To diminish.) *Half (or Close) Interval on—Subdivision.* (To increase.) *Half (or Full) Interval on—Subdivision.*		*Right (or Left) Incline—Trot—Forward—Walk* (except No. 1 of the named Subdivision).

The commanding officer names the subdivision on which the formation is to be made. Should it be required to form diminished intervals from the halt, the named subdivision stands fast, the remaining subdivisions wheel about.

At the caution the right detachment wheels into the new direction. No. 1 gun wheels to the right, half right, and right about wheel, forming up on the right of its detachment.

If a flank is thrown back with detachments in front or rear, the subdivisions are reversed twice, to the right.

No. 21.—FROM LINE TO CHANGE FRONT ON A CENTRAL SUBDIVISION.

Commanding Officer.	Officers.	Nos. 1.
Change Front, Half Left on No. 4—March.	Of Right Division—*Subdivisions Quarter Left.* Of Left Division—*Subdivisions Right about Wheel—Forward—Subdivisions Quarter Left.*	Of 4—*Half Left—Halt.* Of 1, 2, and 3 — *Left — Halt.* Of 5 and 6—*Left — Right about Wheel—Halt.*

In throwing back a flank, the gun of the named subdivision must be reversed, and brought on the right of its detachment in the same manner as No. 1 in the preceding movement.

In changing front on a central subdivision the longest flank should be thrown forward if possible; thus change of front to the right should be made on No. 3, to the left on No. 4.

No. 22.—FROM LINE TO CHANGE FRONT WHEN IN ACTION.

The commanding officer orders the named gun to be brought into action in the new direction; the guns next to it are brought into their position either "by hand" or "limbering up," according to the nature of the ground.

The guns next to those run up by hand should be limbered up, but the detachments not mounted.

A battery may change its front "half right" or "half left," on the same principle. The commanding officer's word would be "*Change Front*," "*Half Right*," "*On — Subdivision.*"

These manœuvres can be executed on the same principle by divisions and half batteries.

No. 23.—FROM LINE TO CHANGE FRONT FOR ACTION.

Commanding Officer.	Officers.	Nos. 1.
Change Front Right Back, for Action—March.	Of Right and Centre Divisions—*Subdivisions Right about Wheel—Subdivisions Half Right.*	Of 6—*Action Right.* Of 5—*Right about Wheel—Halt—Action—Rear.* Of 4, 3, 2, and 1—*Right—Halt—Action Rear.*

No. 10.—FROM LINE TO ADVANCE IN ECHELLON OF SUBDIVISIONS FROM A FLANK.

Commanding Officer.	Officers.	Nos. 1.
Advance in Echellon of Subdivisions from the Right—March.		(In succession)—*Advance —March.*

At the word "*March,*" No. 1 subdivision advances; the other subdivisions in succession, at subdivision distance.

A battery in echellon of subdivisions, if required to change its front when in action, does so at the words "*Action Left*" (or "*Right*"), by throwing the trails round, and bringing the guns into the new direction; the limbers forming in rear of their guns.

No. 11.—FROM LINE TO ADVANCE IN ECHELLON OF DIVISIONS OR HALF BATTERIES FROM A FLANK.

Commanding Officer.	Officers.	Nos. 1.
Advance in Echellon of Divisions from the Right—March.	(In succession)—*Advance—March.*	

At the word "*March,*" the right division advances; the others in succession, at division distance.

In advancing from the right in echellon of half batteries, the left half battery proceeds as detailed for the centre division.

No. 12.—FROM LINE TO ADVANCE IN DOUBLE COLUMN FROM THE CENTRE.

Commanding Officer.	Officers.	Nos. 1.
Advance in Double Column from the Centre —March.	Of Centre Division—*Advance.* Of Right Division—*Subdivisions Left Wheel.* Of Left Division—*Subdivisions Right Wheel.*	Of 2 and 1—*Right Wheel.* Of 5 and 6—*Left Wheel.*

At the word *March,*" the centre division advances at the pace ordered; the flank divisions wheel by subdivisions inwards, by word of command from the divisional officers, and as they come in rear of the column, they wheel to the front by word of command from their Nos. 1.

The staff serjeants in rear of 1 and 6; the captain in rear of the centre.

If it is intended to form line to the right, the commanding officer gives the word "*Right directs.*"

No. 13.—FROM LINE TO RETIRE IN COLUMN OF DIVISIONS OR HALF BATTERIES FROM A FLANK.

Commanding Officer.	Officers.	Nos. 1.
Retire in Column of Divisions from the Right—March.	Of Right Division — *Subdivisions Right about Wheel.* Of Centre and Left Divisions—*Subdivisions Right Wheel—Subdivisions Right Wheel—Forward.*	

In retiring from the right in column of half batteries, the left half battery proceeds as detailed for the centre division.

To retire from the left the whole of the subdivisions are wheeled to the right about by the commanding officer, and advanced from the right in column of divisions.

No. 14.—FROM LINE TO RETIRE BY ALTERNATE HALF BATTERIES IN ACTION FROM A FLANK.

When a battery in line, in action, is ordered to retire from a flank by alternate half batteries, the limbers come up and reverse as for limbering up to the rear, the named half battery limbers up at once and retires on its marker, who will have taken up any distance that may be ordered in rear of its inward flank; the other half battery remains in action, the limbers four yards from the trail ready to limber up, and retire as soon as the named half battery is halted for action.

The senior officer of each half battery gives the word of command.

When the command "*Form Line*" is given, line is formed on the rear half battery; the limbers at once take their usual position in action.

If the half battery to retire is not specified, the left retires.

N.B.—At field days when ammunition is to be used, the limber boxes are not to be opened, but two or three cartridges are to be temporarily placed in one of the axletree boxes for use, when the limbers are in such close proximity to the guns.

No. 15.—FROM LINE TO RETIRE IN A DOUBLE COLUMN FROM THE CENTRE.

In order to perform this manœuvre, the battery should be reversed, and then it is performed in the same manner as the advance from the centre in a double column.

PLATE XXV.

CHANGE FRONT HALF RIGHT.

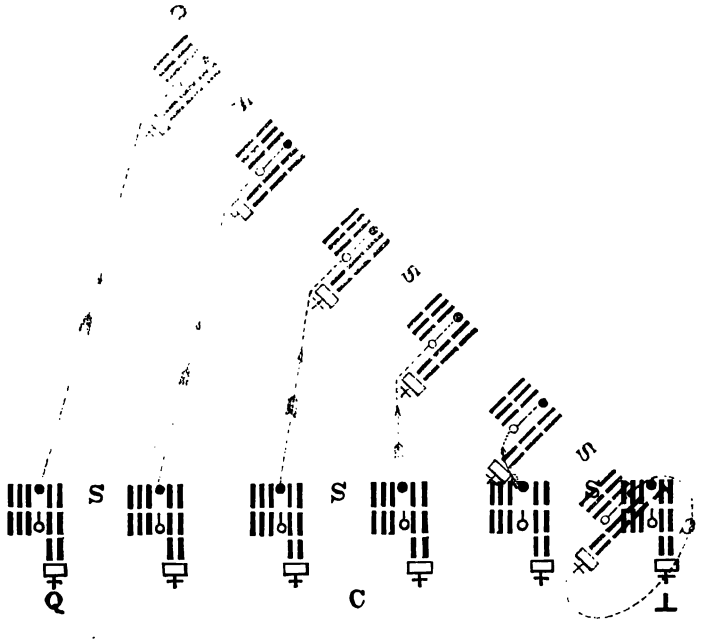


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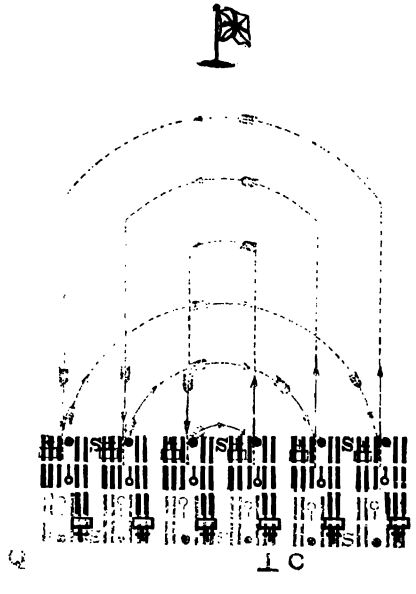
PLATE XXIV.

TO CHANGE FRONT TO THE REAR WHEN AT DIMINISHED INTERVALS.



No. 16.—FROM LINE TO CHANGE FRONT TO THE REAR.

Commanding Officer.	Officers.	Nos. 1.
Change Front to the Rear—March.	Of Centre Division—*Subdivisions Inwards about Wheel—Halt.* Of Right Division—*Advance — Left Wheel — Forward—Left Wheel — Forward—Halt.* Of Left Division—*Advance—Right Wheel — Forward — Right Wheel — Forward—Halt.*	Of 3—*Advance — Right Shoulders.* Of 4—*Left Shoulders.*

The serjeant-major places himself in rear of No. 3 subdivision; the quarter-master serjeant takes up a point beyond where the right flank will rest when the formation is completed. The captain dresses the markers from the right of serjeant-major.

At the word "*March,*" the centre division wheels about inwards and halts in its place. The others advance four yards, wheel inwards, pass each other by subdivisions bridle-hand to bridle-hand, and again wheel up into their places in line.

No. 17.—FROM LINE TO CHANGE FRONT TO THE REAR WHEN AT DIMINISHED INTERVALS. (Plate XXIV.)

Commanding Officer.	Officers.	Nos. 1.
Change Front to the Rear—March—Half Batteries Inwards about Wheel.	Of Right Half Battery—*Left about Wheel—Forward—Halt.* Of Left Half Battery—*Halt—Right about Wheel — March — Forward—Halt.*	

At the word "*March,*" the battery advances two horses' lengths, the left half battery halts, the right moves forward, and as soon as it is sufficiently advanced to enable the left half battery to wheel, the whole wheel about inwards, and incline to the centre, the right half battery coming up at an increased pace. The markers as in preceding movement.

When this is done on the move, the right half battery increases the pace, and the movement is carried out as above.

A battery at diminished intervals may change front

to the rear on the centre, and open out to full intervals in wheeling; the word of command is,—

"*Change Front to the Rear,*" "*Full Interval on No. —,*" "*Left Half Battery Halt,*" "*Half Batteries Inwards about Wheel,*" "*Forward.*"

The right half battery moves forward as in the former case, and in wheeling the subdivisions open out to full interval from the one named.

No. 18.—From Line to Reverse a Battery when at Diminished Intervals.

Commanding Officer.	Officers.	Nos. 1.
Battery will Reverse—March— Subdivisions Right about Wheel.		Of 1, 3, and 5—*Advance —Front Form—Halt.* Of 2, 4, and 6—*Halt.*

☞ When this is done on the move, the left subdivisions walk and the right trot; when clear the whole wheel about.

No. 19.—From Line to Change Front on a Flank Subdivision. (Plate XXV.)

Commanding Officer.	Officers.	Nos. 1.
Change Front, Half Right—March.	Of Centre and Left Divisions—*Subdivisions Quarter Right—Forward.*	Of 1—*Half Right.* Of 2, 3, 4, 5, and 6—*Right —Halt.*

At the caution, the right detachment wheels up half right. At the word "*March,*" No. 1 gun wheels right about, half right, and again right about; the other subdivisions wheel up on the alignment.

The manner of throwing forward either flank, wherever the detachments are, is on the same principle, and the change of front may be on any part of a circle.

No. 20.—From Line to Change Front throwing a Flank Back. (Plate XXVI.)

Commanding Officer.	Officers.	Nos. 1.
Change Front, Half Left Back—March.	Of Left and Centre Divisions—*Subdivisions Right about Wheel —Forward — Subdivisions Quarter Left.*	Of 1—*Half Left—Halt.* Of 2—*Right about Wheel —Quarter Left—Right about Wheel—Halt.* Of 3, 4, 5, and 6—*Right about Wheel—Halt.*

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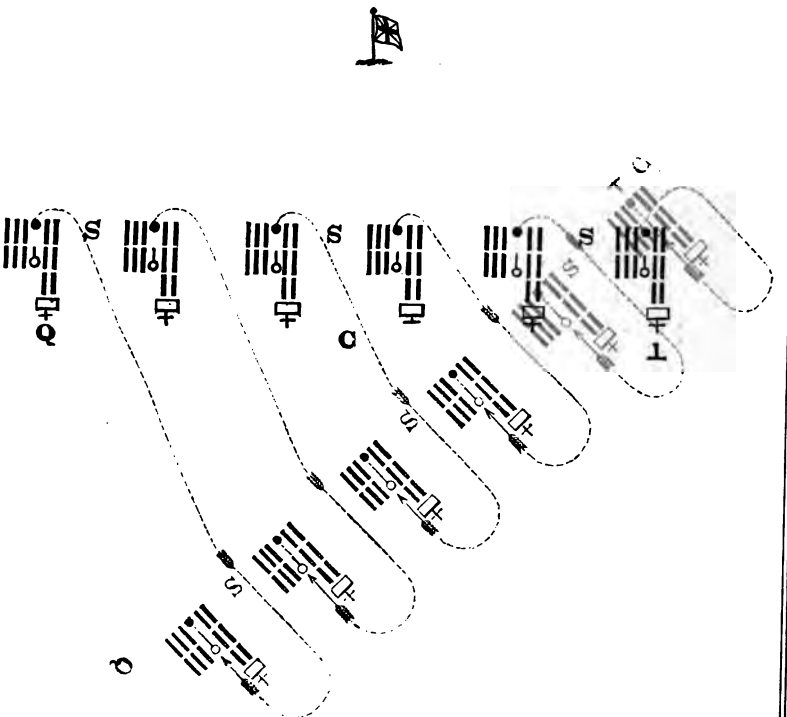
PLATE XXVI.

TO CHANGE FRONT HALF LEFT BACK.



At the caution the right detachment wheels into the new direction. No. 1 gun wheels to the right, half right, and right about wheel, forming up on the right of its detachment.

If a flank is thrown back with detachments in front or rear, the subdivisions are reversed twice, to the right.

No. 21.—FROM LINE TO CHANGE FRONT ON A CENTRAL SUBDIVISION.

Commanding Officer.	Officers.	Nos. 1.
Change Front, Half Left on No. 4—March.	Of Right Division—*Subdivisions Quarter Left.* Of Left Division—*Subdivisions Right about Wheel—Forward—Subdivisions Quarter Left.*	Of 4—*Half Left—Halt.* Of 1, 2, and 3 — *Left — Halt.* Of 5 and 6—*Left — Right about Wheel—Halt.*

In throwing back a flank, the gun of the named subdivision must be reversed, and brought on the right of its detachment in the same manner as No. 1 in the preceding movement.

In changing front on a central subdivision the longest flank should be thrown forward if possible; thus change of front to the right should be made on No. 3, to the left on No. 4.

No. 22.—FROM LINE TO CHANGE FRONT WHEN IN ACTION.

The commanding officer orders the named gun to be brought into action in the new direction; the guns next to it are brought into their position either "by hand" or "limbering up," according to the nature of the ground.

The guns next to those run up by hand should be limbered up, but the detachments not mounted.

A battery may change its front "half right" or "half left," on the same principle. The commanding officer's word would be "*Change Front*," "*Half Right*," "*On — Subdivision.*"

These manœuvres can be executed on the same principle by divisions and half batteries.

No. 23.—FROM LINE TO CHANGE FRONT FOR ACTION.

Commanding Officer.	Officers.	Nos. 1.
Change Front Right Back, for Action—March.	Of Right and Centre Divisions—*Subdivisions Right about Wheel—Subdivisions Half Right.*	Of 6—*Action Right.* Of 5—*Right about Wheel—Halt—Action—Rear.* Of 4, 3, 2, and 1—*Right—Halt—Action Rear.*

At the caution, the left gun comes into action in the new direction; at the word "*March*" the other subdivisions wheel to the right about and come into action to the rear, when the gun axletrees are on the alignment.

NO. 24.—FROM LINE—A BATTERY IN ECHELLON OF DIVISIONS TO CHANGE ITS FRONT WHEN IN ACTION.

Commanding Officer.	Officers.	Nos. 1.
Change Front to the Left on the Left Guns of Divisions—March.		Of 2, 4, and 6—*Action Left.*

At the caution the pivot guns are turned into the new direction, and at the word "*March*" the others, *if the* ground will permit, are run into position by hand.

NO. 25.—FROM LINE TO CHANGE POSITION TO A FLANK.

Commanding Officer.	Officers.	Nos. 1.
Change Position by the Oblique Echellon of Divisions to the Right — March — Form Line.	*Half Right—Forward —Right—Forward— Halt.*	

At the word "*March,*" the divisions wheel half right and advance until the word "*Form Line*" is given.

The commanding officer gives the word "*Form Line*" when the echellon has arrived at 40 yards from the intended position.

The markers move out at the word "*Form Line,*" and mark the line at right angles to the original position, allowing 20 yards for the right division to wheel up square. The subaltern of the right division gives the word "*Right*" to his division, and halts it on the alignment.

The other divisions receive the word "*Right*" as soon as their right is uncovered from the division in front, and come up in succession into line.

This may also be done by subdivisions from the flanks of divisions or half batteries.

NO. 26.—FROM LINE TO CHANGE POSITION BY THROWING BACK A FLANK.

Commanding Officer.	Officers.	Nos. 1.
Change Position by the Oblique Echellon of Divisions — Right Back — March — Form Line.	*Right about Wheel— Half Right — Forward—Right—Forward—Right about Wheel—Halt.*	

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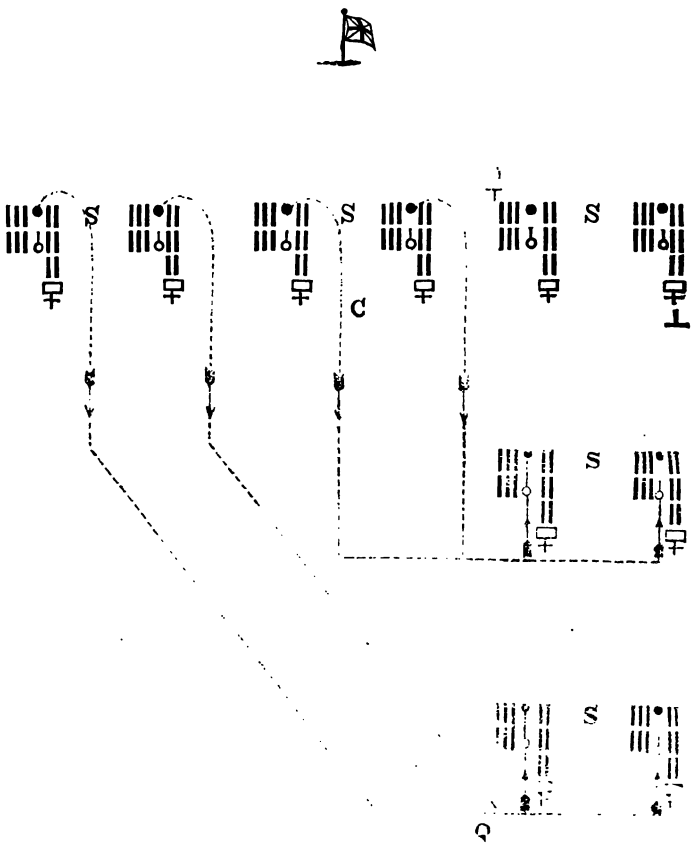
PLATE XXVII.

COLUMN OF DIVISIONS IN REAR OF THE RIGHT.



The battery having reversed, the movement is performed as in changing position to the right, except that each division after completing the wheel at the word "*Right,*" passes the new alignment, and when sufficiently to the rear wheels to the right about.

Note.—Changes of position may be made half right in the same manner, the divisions forming oblique echellon by wheeling quarter right. To complete the wheel in forming line the word is "*Right.*" These movements may also be done by half batteries.

NO. 27.—FROM LINE TO FORM COLUMN OF DIVISIONS OR HALF BATTERIES IN REAR OF A FLANK. (Plate XXVII.)

Commanding Officer.	Officers.	Nos. 1.
Column of Divisions in Rear of the Right—March.	Of Centre Division —*Subdivisions Right about Wheel– Subdivisions Left Wheel —Subdivisions Left Wheel Up—Halt.*	
	Of Left Division — *Subdivisions Right about Wheel—Subdivisions Half Left —Left—Left Wheel Up—Halt.*	

At the word "*March,*" the two divisions which are to move wheel to the right about, and dress by the left; the centre division, when sufficiently to the rear, wheels towards the column (viz., to the left); the officer, when he sees the leaders of his rear subdivision on the line of markers, gives the word "*Left Wheel Up,*" and halts his division when in position.

As soon as the centre division takes ground towards the column, the other division inclines in the same direction, and when sufficiently to the rear it inclines again, and proceeds as detailed for the centre division.

If the column is to be formed on the centre division, the right forms in rear of it, and the left in rear of the right.

A column of half batteries in rear of the right is formed in the same manner; the words of command for the left half battery are the same as detailed above for the centre division.

A column of half batteries in rear of the right is formed in the same manner. The words of command for the left half battery are the same as detailed above for the centre division.

A quarter column is formed in the same manner, with the exception that the left division moves into column by two square movements.

No. 28.—From Line to Break into Column of Divisions or Half Batteries to a Flank.

Commanding Officer.	Officers.	Nos. 1.
Column of Divisions to the Right—Divisions Right Wheel—March.	*Forward.*	

At the word "*March,*" the divisions wheel to the right and pass along the original alignment.

If, for convenience of ground or other reasons, it is desired to form a column of divisions or half batteries maintaining the pivot, the manœuvre may be performed as follows:—

Commanding Officer.	Officers.	Nos. 1.
Break into Column of Divisions to the Right—Detachments on the Left. Backwards Wheel — March — March.		Of 1, 3, and 5 — *Half Right—Left.* Of 2, 4, and 6—*Advance.*

At the word "*March,*" the detachments wheel backwards, the flank horses turning on their centre; the drivers disengage to the right. At the second word "*March,*" Nos. 2, 4, and 6 subdivisions march straight forward in column; the remaining subdivisions wheel half right, and form columns of divisions to the right.

A column of half batteries can be formed in the same manner; the pivot subdivisions wheeling as before, but the others after wheeling must incline away to gain their required intervals.

This movement would generally be employed in breaking into column from line with other troops.

No. 29.—A Battery in Line to Advance, Masking the Guns for Action Front.

Commanding Officer.	Officers.	Nos. 1.
Detachments Front, Closing on the Centre—Masking the Guns for Action—March. *Prepare to Form Line—Form Line.*	Of Right Division—*Subdivisions Left Incline.* Of Left Division — *Subdivisions Right Incline.* Of Right Division—*Detachments Right Wheel.* Of Left Division — *Detachments Left Wheel.* Of Centre Division—*Halt—Action Front.*	Of 1, 2, 5, 6—*Forward.* Of 3—*Left Incline—Forward.* Of 4—*Right Incline — Forward.*

The battery having formed with guns masked in rear of detachments, is advanced until near the position it is to occupy in action.

When the caution "*Prepare to Form Line*" is given, the guns advance in double column of subdivisions from the centre, 3 and 4 opening out to full interval.

At "*Form Line,*" the guns form line on the centre division, which comes into action at once, the detachments of right and left divisions wheeling outwards and forming on the front of their guns.

MOVEMENTS FROM COLUMN.

No. 1.—FROM COLUMN OF SUBDIVISIONS TO FORM COLUMN OF DIVISIONS.

Commanding Officer.	Officers.	Nos. 1.
Form Divisions—March.		Of 2, 4, and 6—*Left Wheel — Right Wheel Up—Halt.*

If the command is "*On the Right Form Divisions,*" the rear subdivisions form on the right.

If this is done on the move, the rear subdivisions of divisions incline, and at an increased pace form divisions.

A column of half batteries may be formed in the same manner.

No. 2.—FROM COLUMN OF DIVISIONS TO ADVANCE IN COLUMN OF SUBDIVISIONS.

Commanding Officer.	Officers.	Nos. 1.
Advance in Column of Subdivisions from the Right—March.		Of 1, 3, and 5—*Advance.* Of 2, 4, and 6 — *Right Wheel—Left Wheel.*

To advance in a column of subdivisions from a column of half batteries is done in a similar manner.

No. 3.—FROM COLUMN OF SUBDIVISIONS TO FORM COLUMN OF DIVISIONS OR HALF BATTERIES TO A FLANK ON THE MOVE.

Commanding Officer.	Officers.	Nos. 1.
Form Column of Divisions to the Left.	Of Leading Division—*Subdivisions Left Wheel, Forward.* Of Centre and Rear Divisions—*Advance*—(in Succession) *Subdivisions Left Wheel, Forward.*	

A column of half batteries may be formed in a similar manner.

NO. 4.—FROM COLUMN OF DIVISIONS OR HALF BATTERIES TO WHEEL INTO LINE. (Plates XXVIII and XXIX.)

Commanding Officer.	Officers.	Nos. 1.
Right (or *Left*) *Wheel into Line—March.*		Of 1, 3, and 5—*Detachments Right Wheel—Halt.* Of 2, 4, and 6—*Advance—Right Wheel—Halt.*

At the caution, the officers commanding divisions move to their positions, facing the alignment; at the word "*Eyes Front,*" they turn to the right about, and fall in between their subdivisions.

The markers mark for the flank subdivisions (2 and 5, which will become 6 and 1 in the new line), the captain dressing them from the outer flank of the serjeant-major.

At the word "*March,*" the outer subdivisions advance and wheel to their right; the drivers of the pivot subdivisions must wait until the detachments have wheeled up, when they wheel to the left, throw right shoulders forward, take sufficient ground to the rear, and wheel to the right about.

This may be done to the left in the same manner. The above may be done in a column of half batteries in the same manner.

NO. 5.—FROM COLUMN TO FORM LINE ON THE *LEADING* DIVISION.

Commanding Officer.	Officers.	Nos. 1.
Form Line—March.	Of Centre Division—*Subdivisions Left Wheel—Subdivisions Right Wheel Up—Halt.* Of Rear Division—*Subdivisions Left Wheel—Half Right—Right—Halt.*	

At the caution, the markers take up the alignment.

At the word "*March*" the two rear divisions wheel by subdivisions to the left.

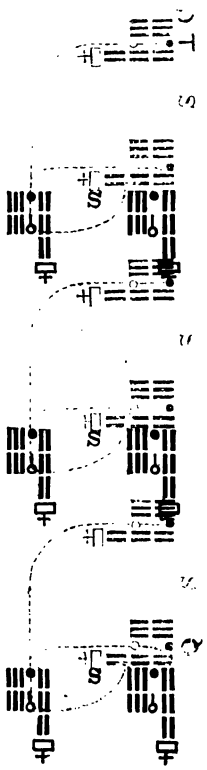
The officer of the centre division, as soon as his rear subdivision is opposite its position, gives the word "*Subdivisions Right Wheel Up,*" and "*Halt,*" as his division comes up into line. As soon as the centre division takes ground to the front, the rear division inclines to the front; and when its rear subdivision is opposite its position it inclines again to the front, and comes up into line.

If "*On the Move,*" the centre and rear divisions incline towards the intended line, and come up at an increased pace.

To face Page 326.

PLATE XXVIII.

COLUMN OF DIVISIONS TO WHEEL INTO LINE TO THE RIGHT.



NO. 4.—FROM COLUMN OF DIVISIONS OR HALF BATTERIES TO WHEEL INTO LINE. (Plates XXVIII and XXIX.)

Commanding Officer.	Officers.	Nos. 1.
Right (or *Left*) *Wheel into Line—March.*		Of 1, 3, and 5—*Detachments Right Wheel—Halt.* Of 2, 4, and 6—*Advance—Right Wheel—Halt.*

At the caution, the officers commanding divisions move to their positions, facing the alignment; at the word "*Eyes Front,*" they turn to the right about, and fall in between their subdivisions.

The markers mark for the flank subdivisions (*2 and 5,* which will become 6 and 1 in the new line), the captain dressing them from the outer flank of the serjeant-major.

At the word "*March,*" the outer subdivisions advance and wheel to their right; the drivers of the pivot subdivisions must wait until the detachments have wheeled up, when they wheel to the left, throw right shoulders forward, take sufficient ground to the rear, and wheel to the right about.

This may be done to the left in the same manner. The above may be done in a column of half batteries in the same manner.

NO. 5.—FROM COLUMN TO FORM LINE ON THE *LEADING* DIVISION.

Commanding Officer.	Officers.	Nos. 1.
Form Line—March.	Of Centre Division—*Subdivisions Left Wheel—Subdivisions Right Wheel Up—Halt.* Of Rear Division—*Subdivisions Left Wheel—Half Right—Right—Halt.*	

At the caution, the markers take up the alignment.

At the word "*March*" the two rear divisions wheel by subdivisions to the left.

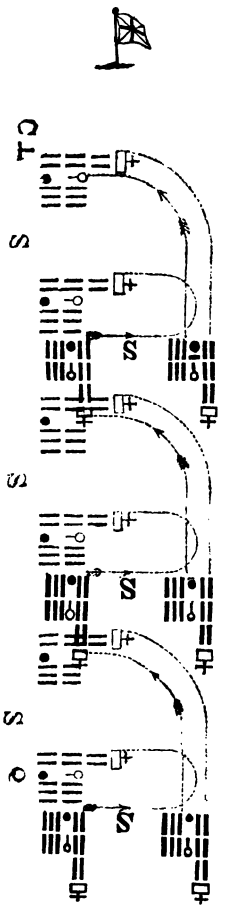
The officer of the centre division, as soon as his rear subdivision is opposite its position, gives the word "*Subdivisions Right Wheel Up,*" and "*Halt,*" as his division comes up into line. As soon as the centre division takes ground to the front, the rear division inclines to the front; and when its rear subdivision is opposite its position it inclines again to the front, and comes up into line.

If "*On the Move,*" the centre and rear divisions incline towards the intended line, and come up at an increased pace.

To face Page 326.

PLATE XXIX.

COLUMN OF DIVISIONS TO WHEEL INTO LINE TO THE LEFT.



Line may be formed to the right in the same manner, the word of command being "*On the Right Form Line.*"

When for "*Action,*" the leading division comes into action at the word "*March.*" The centre and rear divisions proceed as before, and come into action when in position.

Line is formed from column of half batteries in the same manner.

No. 6.—FROM COLUMN TO FORM LINE ON THE REAR DIVISION.

Commanding Officer.	Officers.	Nos. 1.
Form Line on Rear Division—March.	Of Centre Division—*Subdivisions Right Wheel — Subdivisions Right Wheel— — Forward — Subdivisions Right about Wheel—Halt.* Of Leading Division—*Subdivisions Right Wheel—Subdivisions Half Right—Right—Forward — Right about Wheel—Halt.*	

The base is given by the rear division.

At the word "*March*" the centre and leading divisions take ground to the right. The officer of the centre division, as soon as he sees the limber of his rear gun opposite its position, gives the word "*Subdivisions Right Wheel.*" The officer, as it goes to the rear, halts on the alignment, and as soon as the division is sufficiently to the rear gives the word "*Right about Wheel.*" He halts it when in line, and turns right about.

The leading division, as soon as the centre division takes ground to the rear, inclines in the same direction; and as soon as the limber of the rear gun is opposite to its position, the division again inclines to the rear, and completes the manœuvre in the same manner as the centre division.

Line may be formed on the left of the rear division in a similar manner, the word of command being, "*Form Line on Left of Rear Division.*"

This can be done by half batteries in the same manner.

No. 7.—FROM COLUMN TO FORM LINE ON THE CENTRE DIVISION.

This is a combination of Nos. 5 and 6.

No. 8.—RETIRING IN COLUMN OF DIVISIONS TO FORM LINE ON THE LEADING DIVISION FOR ACTION REAR.

Commanding Officer.	Officers.	Nos. 1.
On the Right of the Leading Division Form Line for Action Rear.	Of Leading Division—*Halt—Action Rear.* Of Centre Division—*Subdivisions Right Wheel—Subdivisions Left Wheel — Forward — Halt — Action Rear.* Of Rear Division—*Subdivisions Right Wheel—Subdivisions Half Left—Subdivisions Left—Forward — Halt—Action Rear.*	

No. 9.—CHANGING THE ORDER OF A COLUMN.

Should it be necessary to change the order of a column, the rear subdivision inclines to the right, or left, as ordered, and when clear of the column moves to the front, followed by the rest in succession.

A column of divisions or of half batteries is changed *in* a similar manner, the rear inclining to the right unless otherwise ordered.

No. 10.—TO COUNTERMARCH A COLUMN OF DIVISIONS OR HALF BATTERIES. (Plate XXX.)

Commanding Officer.	Officers.	Nos. 1.
The Divisions will Countermarch — March.	*Subdivisions Inwards about Wheel — Forward—Halt.*	Of 1, 3, 5—*Advance — Right Shoulders.* Of 2, 4, 6—*Left Shoulders.*

The base is given as for column.

Officers turn right about and halt their divisions.

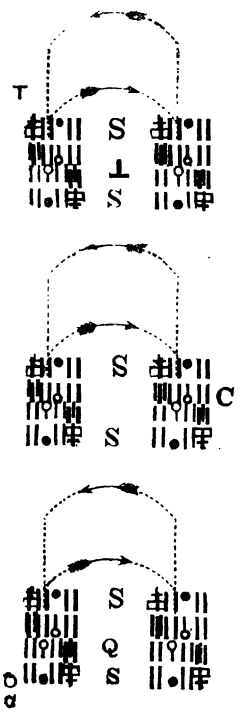
"*On the Move,*" the divisions wheel about inwards by subdivisions, and move forward without halting.

A column of half batteries countermarches in a similar manner, the centre subdivisions inclining to the left and wheeling to the right about.

To face Page 328.

PLATE XXX.

TO COUNTERMARCH A COLUMN OF DIVISIONS.



No. 8.—RETIRING IN COLUMN OF DIVISIONS TO FORM LINE ON THE LEADING DIVISION FOR ACTION REAR.

Commanding Officer.	Officers.	Nos. 1.
On the Right of the Leading Division Form Line for Action Rear.	Of Leading Division—*Halt—Action Rear.* Of Centre Division—*Subdivisions Right Wheel—Subdivisions Left Wheel — Forward — Halt — Action Rear.* Of Rear Division—*Subdivisions Right Wheel—Subdivisions Half Left—Subdivisions Left—Forward — Halt—Action Rear.*	

No. 9.—CHANGING THE ORDER OF A COLUMN.

Should it be necessary to change the order of a column, the rear subdivision inclines to the right, or left, as ordered, and when clear of the column moves to the front, followed by the rest in succession.

A column of divisions or of half batteries is *changed in* a similar manner, the rear inclining to the right unless otherwise ordered.

No. 10.—TO COUNTERMARCH A COLUMN OF DIVISIONS OR HALF BATTERIES. (Plate XXX.)

Commanding Officer.	Officers.	Nos. 1.
The Divisions will Countermarch — March.	*Subdivisions Inwards about Wheel — Forward—Halt.*	Of 1, 3, 5—*Advance — Right Shoulders.* Of 2, 4, 6—*Left Shoulders.*

The base is given as for column.

Officers turn right about and halt their divisions.

"*On the Move,*" the divisions wheel about inwards by subdivisions, and move forward without halting.

A column of half batteries countermarches in a similar manner, the centre subdivisions inclining to the left and wheeling to the right about.

No. 11.—To Deploy to both Flanks.

Commanding Officer.	Officers.	Nos. 1.
Deploy Outwards — March.	Of Centre Division—*Subdivisions Right Wheel — Subdivisions Left Wheel Up—Halt.* Of Rear Division—*Subdivisions Half Left — Subdivisions Right—Forward — Halt.*	

Movements from Quarter Column.

No. 1.—From Quarter Column of Half Batteries to Form Line to a Flank.

Commanding Officer.	Officers.	Nos. 1.
Line to the Left on the Rear Half Battery—March.	Of Leading Half Battery — *Advance — Left Wheel — Forward—Halt.* Of Rear Half Battery —*Left Wheel—Forward—Halt.*	

The leading half battery, as soon as it has got its proper distance, wheels to the left; the rear half battery gives the base, wheels up at once, and advances its own depth before the word "*Halt,*" is given.

No 2.—A Quarter Column of Half Batteries to Change Front to a Flank.

Commanding Officer.	Officers.	Nos. 1.
Change Front to the Right—March.	Of Leading Half Battery — *Advance in Column of Subdivisions from the Left —Subdivisions Right Wheel Up—Halt.* Of Rear Half Battery —*Subdivisions Left Wheel — Leading Subdivision Right Wheel—Subdivisions Right Wheel Up—Halt.*	Of 3—*Advance.* Of 2—*Left Wheel—Right Wheel.* Of 1—*Left Wheel—Right Shoulders—Right about Wheel.* Of 6, 5, and 4—(in Succession) *Right Wheel.*

At the caution, the base is given by the markers, the serjeant-major on the prolongation of the outer flank of the column, at a distance equal to its front.

No. 1 subdivision will wheel to the right about when the other subdivisions of the leading half battery wheel up, and it will be necessary, therefore, that it should throw its right shoulders forward, before it reaches the point where the preceding subdivisions have wheeled to the right.

If the change of front is to the left, the base for the covering is given on the left of the leading half battery.

SECTION 5.—BRIGADE MOVEMENTS.

MOVEMENTS FROM LINE.

No. 1.—FROM LINE TO ADVANCE IN COLUMN OF BATTERIES FROM A FLANK.

Commanding Officer.	Majors.
Advance in Column of Batteries from the Right—March.	Of the Right Battery—*Advance.* Of Centre and Left Batteries—*Subdivisions Right Wheel—Subdivisions Left Wheel Up.*

At the caution, the major of the right battery shifts to his place in the column about to be formed. The majors of the centre and left batteries remain opposite the centre of their batteries until they are directly in rear of the major of the right battery, when they halt, allow their batteries to pass them, and as their rear subdivisions come in rear of the pivot flank of the column, give the command "*Left Wheel Up.*"

If the advance is ordered with diminished intervals, the right battery advances, closing on the pivot subdivision. The centre and left batteries wheel to the right at the diminished interval, and wheel to the left as they arrive in rear of the pivot flank of the right battery.

The words of command are,—

Commanding Officer.	Majors.
Advance in Column of Batteries from the Right—Half (or Close) Interval—March.	Of Right Battery—*Advance—Half (or Close) Interval on* 6. Of Centre and Left Batteries—*Right Wheel—Half (or Close) Interval—Forward—Left Wheel—Forward.*

No. 2.—FROM LINE TO ADVANCE IN ECHELLON OF BATTERIES FROM A FLANK.

Commanding Officer.	Majors.
Advance in Echellon of Batteries from the Right—March.	*Advance*—(in Succession) *March.*

The batteries advance in echellon, at wheeling distances from the front.

The majors are on the right flank of their batteries, if advancing from the right; on the left flank, if advancing from the left.

Retiring in echellon is on the same principle.

No. 3.—FROM LINE TO ADVANCE IN DOUBLE COLUMN.

Commanding Officer.	Majors.	Officers.
Advance in Double Column of Half Batteries from the Centre—March.	Of Centre Battery—*Advance.* Of Right Battery—*Subdivisions Left Wheel.* Of Left Battery—*Subdivisions Right Wheel.*	Of Half Batteries of Right Battery—*Subdivisions Right Wheel—Forward.* Of Half Batteries of Left Battery—*Subdivisions Left Wheel—Forward.*

The right and left batteries take ground inwards, and take ground to the front by half batteries in succession as they come in rear of the right and left half batteries of the centre battery.

The left column directs unless otherwise ordered. If it is intended to form line to the right, the commanding officer gives the word "*Right directs.*"

The adjutant and serjeant-major on the outer flank.

It should be borne in mind that although the double column has a front equal to a battery, it has only half battery distance. The distance from the head of the double column to the next two half batteries will of course be 9½ yards additional, to allow for the battery interval.

To retire from the centre in double column of half batteries, the subdivisions are wheeled about, and the movement is performed as above by advancing from the centre.

No. 4.—FROM LINE TO RETIRE IN COLUMN OF BATTERIES FROM A FLANK.

Commanding Officer.	Majors.
Retire in Column of Batteries from the Right—March.	Of Right Battery—*Subdivisions Right about Wheel—Forward.* Of Centre and Left Batteries—*Subdivisions Right Wheel—Subdivisions Right Wheel—Forward.*

At the caution, the major of the right battery shifts to the outer flank of his battery, and gives the word "*Forward, Eyes Left*" when the battery has reversed.

The centre and left batteries take ground to the rear when they come in rear of the right battery.

The majors of the centre and left batteries shift to the left of their batteries as they take ground the second time.

To retire with reduced intervals, each battery closes on its No. 1 subdivision as it takes ground to its rear.

To retire from the left, the whole of the subdivisions are wheeled to the right about by the commanding officer, and advanced from the right in column of batteries.

No. 5.—From Line to Retire by alternate Batteries or Half Batteries.

Commanding Officer.	Majors.
Retire by alternate Batteries — March.	*Subdivisions Right about Wheel.*

The even numbered batteries retire first, or the word may be given "*Retire by alternate Half Batteries,*" in which case the left half battery of each battery will retire first.

If the line is in action, and the command is given, "*Retire by alternate Batteries,*" the major of the centre battery gives the word "*Rear Limber up.*"

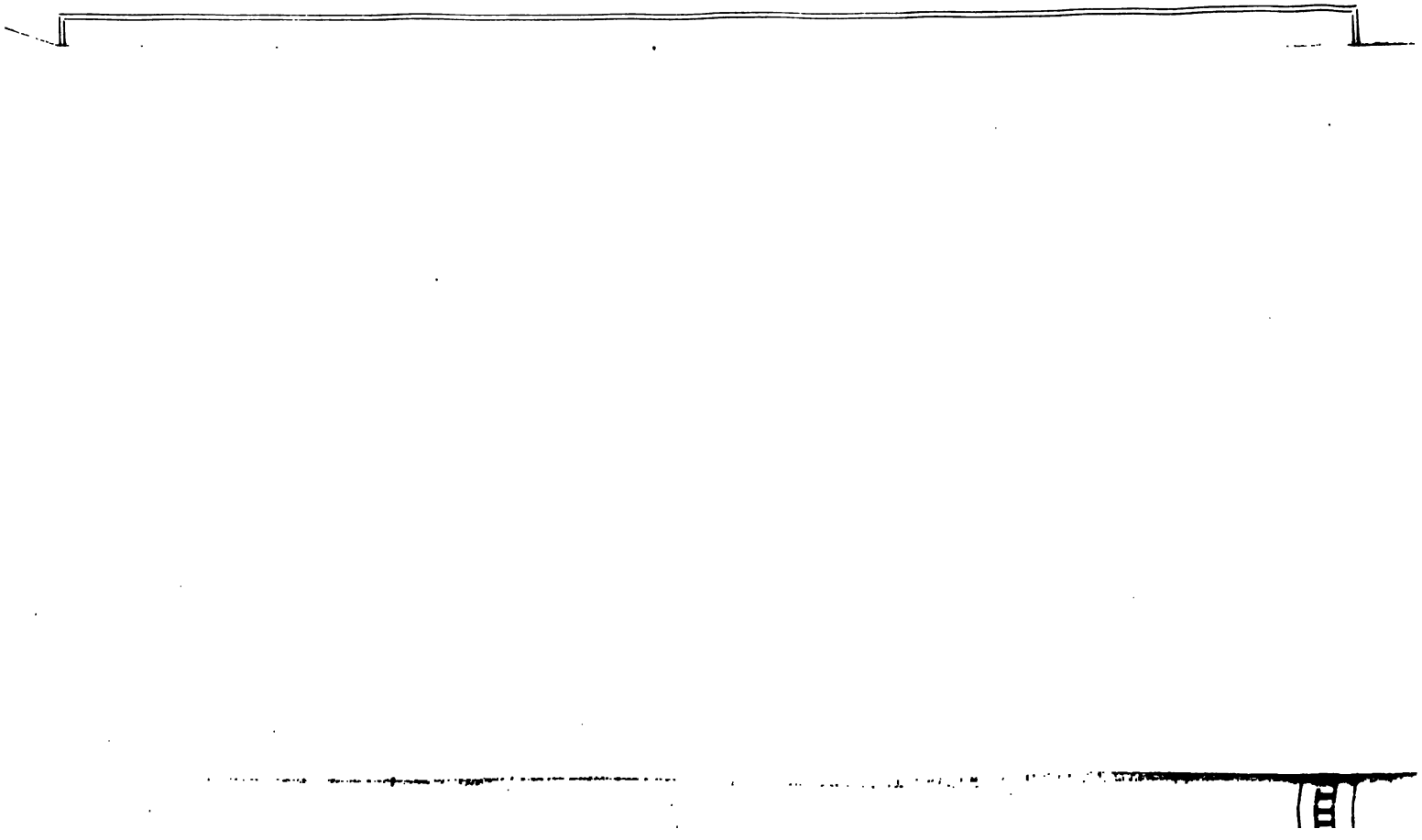
The limbers of the other batteries come up and reverse as laid down in manœuvres of a single battery.

At the word "*March,*" the centre battery retires to any distance that may be ordered, and comes into "action," its position being given by its marker, on its left flank under the superintendance of the adjutant.

As soon as the centre battery has halted and come into action, the flank batteries will limber up and retire a like distance beyond the centre battery, markers marking for the inward flanks under the superintendance of the adjutant from the centre. When the command "*Form Line*" is given, the line is formed on the rear battery or batteries, the limbers of which take their usual positions in action.

No. 6.—From Line to Change Front to a Flank.
(Plate XXXI.)

Commanding Officer.	Majors.
Change Front to the Right—March.	Of Right Battery—*Change Front to the Right.* Of Centre and Left Batteries—*Half Right—Forward—Right—Forward*—Halt.



The majors of the centre and left batteries shift to the left of their batteries as they take ground the second time.

To retire with reduced intervals, each battery closes on its No. 1 subdivision as it takes ground to its rear.

To retire from the left, the whole of the subdivisions are wheeled to the right about by the commanding officer, and advanced from the right in column of batteries.

No. 5.—FROM LINE TO RETIRE BY ALTERNATE BATTERIES OR HALF BATTERIES.

Commanding Officer.	Majors.
Retire by alternate Batteries — March.	*Subdivisions Right about Wheel.*

The even numbered batteries retire first, or the word may be given "*Retire by alternate Half Batteries,*" in which case the left half battery of each battery will retire first.

If the line is in action, and the command is given, "*Retire by alternate Batteries,*" the major of the centre battery gives the word "*Rear Limber up.*"

The limbers of the other batteries come up and reverse as laid down in manœuvres of a single battery.

At the word "*March,*" the centre battery retires to any distance that may be ordered, and comes into "action," its position being given by its marker, on its left flank under the superintendance of the adjutant.

As soon as the centre battery has halted and come into action, the flank batteries will limber up and retire a like distance beyond the centre battery, markers marking for the inward flanks under the superintendance of the adjutant from the centre. When the command "*Form Line*" is given, the line is formed on the rear battery or batteries, the limbers of which take their usual positions in action.

No. 6.—FROM LINE TO CHANGE FRONT TO A FLANK.
(Plate XXXI.)

Commanding Officer.	Majors.
Change Front to the Right—March.	Of Right Battery—*Change Front to the Right.* Of Centre and Left Batteries—*Half Right—Forward—Right—Forward—Halt.*

PART

VIII.

front is made on the flank battery unless
lered.
s given by the right battery. To change front
ter) right is done on the same principle.

M LINE TO CHANGE FRONT HALF RIGHT BACK.
(Plate XXXII.)

ading Officer.	Majors.
Half Right Back—	Of Left Battery—*Change Front Half Right.* Of Centre Battery — *Subdivisions Right about Wheel — Forward — Half Right — Forward — Subdivisions Right about Wheel—Halt.* Of Right Battery—*Subdivisions Right about Wheel—Forward — Quarter Right—Forward—Right—Forward Subdivisions Right about Wheel——Halt.*

given by the left battery, which changes front

)M LINE TO CHANGE FRONT ON A CENTRAL BATTERY. (Plate XXXIII.)

ading Officer.	Majors.
alf Right on Centre ch.	Of Centre Battery—*Change Front—Half Right.* Of Left Battery—*Quarter Right—Forward—Right—Forward—Halt.* Of Right Battery—*Subdivisions Right about Wheel — Forward — Half Right — Forward — Right about Wheel—Halt.*

given by the centre battery.

)M LINE TO CHANGE FRONT TO THE REAR.

ment is performed by each battery changing
ear.

)M LINE TO CHANGE POSITION BY ECHELLON OF BATTERIES.

ding Officer.	Majors.
to the Right by the llon of Batteries.—Line.	*Half Right — Forward — Right — Forward—Halt.*

d "*March*," each battery wheels half right.
rd "*Form Line*," the leading battery immeetes the wheel to the right, advances its own

PART

Changing front is made on the flank battery unless otherwise ordered.

The base is given by the right battery. To change front half (or quarter) right is done on the same principle.

No. 7.—From Line to Change Front Half Right Back. (Plate XXXII.)

Commanding Officer.	Majors.
Change Front Half Right Back—March.	Of Left Battery—*Change Front Half Right.* Of Centre Battery — *Subdivisions Right about Wheel — Forward — Half Right — Forward — Subdivisions Right about Wheel—Halt.* Of Right Battery—*Subdivisions Right about Wheel—Forward — Quarter Right—Forward—Right—Forward Subdivisions Right about Wheel——Halt.*

The base is given by the left battery, which changes front half right.

No. 8.—From Line to Change Front on a Central Battery. (Plate XXXIII.)

Commanding Officer.	Majors.
Change Front Half Right on Centre Battery—March.	Of Centre Battery—*Change Front—Half Right.* Of Left Battery—*Quarter Right—Forward—Right—Forward—Halt.* Of Right Battery—*Subdivisions Right about Wheel — Forward — Half Right — Forward — Right about Wheel—Halt.*

The base is given by the centre battery.

No. 9.—From Line to Change Front to the Rear.

This movement is performed by each battery changing front to the rear.

No. 10.—From Line to Change Position by Echellon of Batteries.

Commanding Officer.	Majors.
Change Position to the Right by the Oblique Echellon of Batteries.—March—Form Line.	*Half Right — Forward — Right — Forward—Halt.*

At the word "*March*," each battery wheels half right.

At the word "*Form Line*," the leading battery immediately completes the wheel to the right, advances its own

depth, halts, and gives the base; each battery completes the wheel to the right when opposite its marker.

In like manner the line may change position in any required direction, such as "*To the Left*," "*Half Right*," "*Half Left*," "*Right Back*," &c.; the batteries always wheeling into oblique echellon half the amount of the intended change, and the other half as they severally approach the new alignment.

Change of position may also be made by the oblique echellon of half batteries, in a similar manner.

No. 11.—From Line to Change Position by Subdivisions from a Flank.

Commanding Officer.	Majors.
Change Position to the Right by Subdivisions from the Right of Batteries—March.	*Advance by Subdivisions from the Right—Leading Subdivision Half Right*—(in Succession) *Right—Front Form.*

The commanding officer points out to the major of the right battery the point where the right of the line is to rest.

The interval of the heads of batteries is to be preserved from the right battery. Each battery as it approaches the line receives the word "*Leading Subdivision Right*"—"*Front Form*," from its major.

The base is given by the right battery.

No. 12.—From Line to Form Column.

Commanding Officer.	Majors.
Column of Batteries in Rear of the Right—March.	Of Centre Battery — *Subdivisions Right about Wheel — Forward — Subdivisions Left Wheel—Subdivisions Left Wheel Up—Halt.* Of Left Battery—*Subdivisions Right about Wheel —Forward — Subdivisions Half Left — Left — Left Wheel Up—Halt.*

At the word "*March*," the major of the right battery shifts to his place in column of batteries. The majors of the centre and left batteries remain in rear of their batteries as they go to the rear, halt when opposite their markers, and allow their batteries to go sufficiently to the rear to permit of their being brought up perfectly square in column.

The left battery inclines to the left when the centre battery takes ground to the left, and inclines again when sufficiently to the rear.

If the column is to be formed on the centre battery, the right forms in rear of it, and the left in rear of the right.

A quarter column is formed in the same manner, with the exception that the left battery moves into column by two square movements.

No. 13.—From Line to Move to a Flank along the Rear.

Commanding Officer.	Majors.
Column of Batteries from the Right, along the Rear—March.	(In Succession) from the Right—*Subdivisions Left Wheel — Leading Subdivisions Left Wheel — Subdivisions Right Wheel Up.*

At the word "*March,*" the right battery takes ground to the left, and wheels immediately to the left. As soon as the rear subdivision (No, 1) has passed to the rear of the remaining batteries, the battery takes ground to the right.

As soon as the right battery has arrived in rear of the centre of the centre battery, the major of that battery gives the word "*March,*" and the battery proceeds as detailed for the right battery. It is followed in a similar manner by the left battery.

Majors remain on the inner flank of their batteries till clear of the line; they then shift to the left.

A brigade in action may prolong the line to either flank by the flank march of subdivisions along the rear, suppose, to the left from the right; on the word "*Prolong the Line to the Left from the Right,*" the right battery moves along the rear, in column of subdivisions from the left, and each subdivision wheels up to the right in succession, and comes into action front.

Movements from Column.

No. 1.—From Column to Wheel into Line.

Commanding Officer.	Majors.
Left Wheel into Line—March.	*Change Front to the Left.*

At the caution, the majors place themselves facing the alignment, where the centre of their batteries will rest.

The base is given by the leading battery.

At the word "*March,*" each battery changes front to the left; the majors give the word "*Steady*" when their batteries are dressed.

When the dressing is completed, the commanding officer gives the word "*Eyes Front*," upon which the majors, adjutant, and markers resume their places.

Wheeling into line without halting is a most necessary practice. The word of command is the same as from a halt.

At the completion of the wheel the majors give the word "*Forward*," and the line advances at the former pace, the dressing is by the battery of direction.

No. 2.—From Column to Form Line on the Leading Battery.

Commanding Officer.	Majors.
Line on the Leading Battery—March.	Of Centre Battery—*Subdivisions Left Wheel—Subdivisions Right Wheel Up—Halt.* Of Rear Battery—*Subdivisions Half Left—Right— Forward—Halt.*

The base is given by the leading battery.

At the word "*March*," the centre battery takes ground to the left, the major halts opposite his marker, allows his battery to pass until the rear subdivision comes up to him, when he gives the word "*Subdivisions Right Wheel Up*," and halts his battery on the marker.

If this is done on the move, the centre battery will proceed as laid down for the rear battery.

Line may be formed on the "*Right of the Leading Battery*" in a similar manner.

No. 3.—From Column to Form Line on the Rear Battery. (Plate XXXIV.)

Commanding Officer.	Majors.
Line on the Rear Battery—March.	Of Centre Battery — *Subdivisions Right Wheel— Subdivisions Right Wheel — Forward — Subdivisions Right about Wheel—Halt.* Of Leading Battery — *Subdivisions Right Wheel — Subdivisions Half Right — Right — Forward — Subdivisions Right about Wheel—Halt.*

The base is given by the rear battery.

If this is done on the move, the rear battery moves on at a steady pace; the centre and leading batteries wheel by subdivisions to the right, and as soon as they get their respective intervals, wheel up to the left.

PART I

Line may be formed on the "*Left of the Rear Battery*" in a similar manner.

No. 4.—To Change the Order of a Column.

Commanding Officer.	Majors.
Rear of the Column to the Front—March.	Of Rear and Centre Batteries, (in Succession)—*Right Incline—Forward—Left Incline—Forward.* Of Leading Battery—*Advance.*

No. 5.—To Countermarch a Column of Batteries.

Commanding Officer.	Majors.
The Batteries will Countermarch—March.	*Change Front to the Rear.*

The base is given by the rear battery.

If the batteries are at close interval, the right half batteries of each battery move forward until sufficiently in advance of the left half batteries to allow the latter to wheel about inwards, and at the word of command from the majors, all the half batteries wheel about inwards (the right at an increased pace), and are halted on their markers by their respective majors.

Movements from Quarter Column.

No. 1.—From Quarter Column to Deploy to a Flank.

Commanding Officer.	Majors.
Deploy to the Left—March.	Of Centre and Rear Batteries—*Subdivisions Left Wheel—Subdivisions Right Wheel Up—Halt.*

The base is given by the leading battery.

No. 2.—From Quarter Column to Deploy to both Flanks.

Commanding Officer.	Majors.
Deploy Outwards—March.	Of Centre Battery — *Subdivisions Right Wheel — Subdivisions Left Wheel Up—Halt.* Of Rear Battery—*Subdivisions Left Wheel—Subdivisions Right Wheel Up—Halt.*

The base is given by the leading battery.

Should the brigade consist of more than three batteries, the commanding officer will name the number of batteries to form on the right, thus, "*Deploy outwards—Two Batteries to the Right.*"

No. 3.—From Quarter Column to Open out to Column.

Commanding Officer.	Majors.
Open to Column from the Rear Battery —March.	Of Centre and Leading Batteries— *Advance—Halt.*

The markers take their distance from the rear battery. The adjutant corrects the covering from the front.

It may sometimes be necessary to open out from the leading or centre batteries, in which case the batteries in rear of the named one (which stands fast) wheel about by subdivisions, proceed towards the rear, and are again wheeled about when they have got their distances; those in front of the named battery advance.

If it is intended that the brigade should advance after opening out, the word will be "*Advance in Column,*" upon which the leading battery advances at the word "*March,*" and is followed in succession by the others, when the battery in front of them has gained its distance.

No. 4.—From Quarter Column to Form Line to a Flank.

Commanding Officer.	Majors.
Line to the Left on the Rear Battery —March.	Of Leading Battery — *Advance — March—Left Wheel—Forward—Halt.* Of Centre Battery—*Advance—Halt —Left Wheel—March—Forward —Halt.* Of Rear Battery—*Left Wheel— March—Forward—Halt.*

On the word "*March,*" the leading and centre batteries advance, and as soon as they have got their proper distance wheel, in succession, to the left at the command from their respective majors; who remain on the left of their batteries until halted.

The rear battery wheels up, advances its own depth, and gives the base.

No. 5.—From Quarter Column to Change Front to a Flank.

Commanding Officer.	Majors.
Column will Change Front to the Right —March.	Of Leading Battery—*Advance from the Left in Column of Subdivisions —Subdivisions Right Wheel Up—Halt.* Of Centre and Rear Batteries—*Subdivisions Left Wheel — Leading Subdivisions Right Wheel—Subdivisions Right Wheel Up—Halt.*

The base for the covering is given by the leading battery, on the prolongation of the outer flank of the column, at a distance equal to its front.

At the word "*March*," the leading battery advances from the left in column of subdivisions, and when the major finds his leading subdivision nearly opposite the marker, he gives the word "*Subdivisions Right Wheel Up*," halting his battery as it arrives at its marker, the rear subdivision throws its right shoulders forward before it reaches the point where the preceding subdivisions have wheeled to the right, at which it wheels to the right about.

The remaining batteries wheel by subdivisions to the left, leading subdivisions wheel to the right, and when covering the leading battery, wheel up to the right by subdivisions, and halt on their markers.

If the change of front is to the left, the base for the covering is given on the left of the leading battery.

No. 6.—FROM QUARTER COLUMN TO WHEEL TO A FLANK ON THE MOVE.

Commanding Officer.	Majors.
Column will Wheel to the Right.	Of Leading Battery—*Right Wheel—Forward.* Of Centre and Rear Batteries—*Left Incline—Forward—Right Wheel—Forward.*

The rear batteries incline to the left until their right subdivisions cover the right subdivisions of the leading battery, when they get the word "*Forward*," immediately followed by "*Right Wheel*," in succession, from their majors.

No. 7.—FROM QUARTER COLUMN TO REVERSE THE FRONT.

Commanding Officer.	Majors.
Column will Reverse its Front by Half Batteries, Wheeling about Inwards—March—Half Batteries Inwards about Wheel—Halt.	*Right Half Batteries Advance.*

The base for the covering is given by the leading battery at the rear of the column, on the outer flank.

The whole of the right half batteries advance, until that of the rear battery, is clear of the left half battery of the leading battery sufficiently to allow the latter to wheel inwards, when at the word "*Inwards about Wheel*" from the commanding officer, the head of each column of half batteries wheel about inwards, the right at an increased pace,

and the whole are halted by the commanding officer, when the leading battery reaches its marker.

The majors lead round with the left half batteries.

This can be done at reduced intervals.

No. 8.—A QUARTER COLUMN OF BATTERIES TAKING GROUND TO A FLANK TO DEPLOY ON THE REAR BATTERY. (Plate XXXV.)

Commanding Officer.	Majors.
Deploy on the Rear Battery.	Of Rear Battery—*Halt—Subdivisions Left Wheel Up—March—Halt.* Of Centre Battery—*Halt—Subdivisions Left Wheel Up—March—Halt.* Of Leading Battery—*Leading Subdivision Half Right—Left—Left Wheel Up—Halt.*

The base is given by the rear battery.

If this is done with other troops, the adjutant and marker of the base battery should fall out, and follow the flank march of the column, ready to give the base and points immediately the brigade arrives at where its left will rest. The majors of the centre and rear batteries should also remain in rear.

The rear battery halts at the word to deploy until *its left* flank is clear; it then takes ground to the left, and moves up to the alignment.

This is a special parade movement, to be used when it is desired to preserve the original telling off.

MOVEMENTS FROM DOUBLE COLUMN.

No. 1.—FROM DOUBLE COLUMN OF HALF BATTERIES TO FORM LINE.

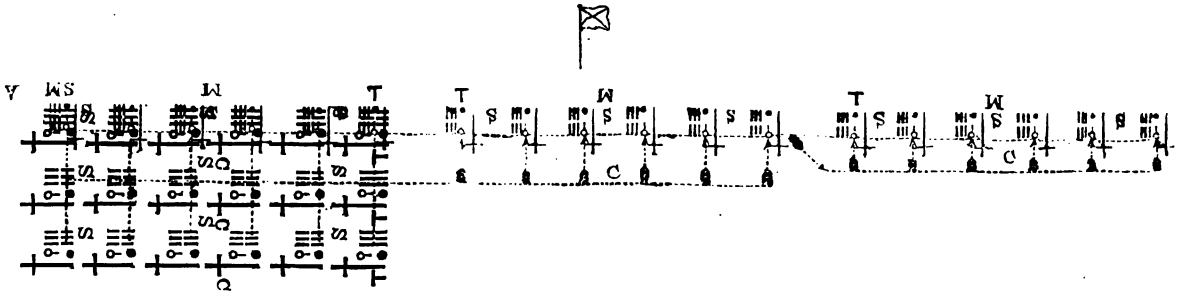
Commanding Officer.	Majors.	Officers.
Form Line—March.	Of Right Battery—*Subdivisions Right Wheel.* Of Left Battery—*Subdivisions Left Wheel.*	Of Half Batteries of Right Battery—*Subdivisions Left Wheel Up—Halt.* Of Half Batteries of Left Battery—*Subdivisions Right Wheel Up—Halt.*

The base is given by the centre battery.

The rear half batteries take ground outwards by word of command from their majors, and towards the front in succession by word from the subalterns, when opposite their position in line.

PLATE XXXV.

QUARTER COLUMN OF BATTERIES TAKING GROUND TO A FLANK TO DEPLOY ON THE REAR BATTERY.



To face Page 840.

With an even number of batteries, the base is given by the directing half battery. The marker of the right centre battery marks for No. 3 subdivision, the others for the subdivisions of their batteries nearest the base.

If this is ordered when advancing, the major of the right battery gives the word "*Half Batteries Half Right—Forward*"; the major of the left battery, "*Half Batteries Half Left—Forward*"; and the major of the centre battery gives the word "*Halt*" as soon as he hears the word "*Forward*" given by the major in his rear.

The half batteries make a half wheel to the front in succession as they come opposite their position in line, and form on the alignment.

No. 2.—From Double Column to Form Line to a Flank.

Commanding Officer.	Majors.	Officers.
Line to the Right—March.	Of Right Battery—*Half Batteries Right Wheel—Forward—Halt.* Of Centre Battery—*Right Wheel—Forward—Halt.* Of Left Battery—*Advance.*	Of Half Batteries of Left Battery (in Succession)—*Right Wheel—Forward—Halt.*

The base is given from the right battery, which advances its own depth and halts.

Section 6.—Inspection and Review.

Battery.

The battery is formed in line, limbered up, detachments front, ranks and guns at order, the wagons four yards in rear of, covering the guns.

The officers at order, viz., the subalterns one horse's length in front of the centre of their divisions; the captain one horse's length on the right of No. 1 subdivision, in line with the subalterns.

The major in the centre, one horse's length in front of the subalterns.

The surgeon, and veterinary surgeon two horses' lengths on the right of No. 1 subdivision, and in line with the front rank.

Trumpeters one horse's length on the right of the staff officers.

The serjeant-major one horses' length in rear of No. 1 subdivision; the quartermaster-serjeant in rear of No. 6; the farrier in rear of No. 2; the mounted shoeing-smith in rear of No. 5 subdivision, the spare horses in rear of their respective subdivisions in line with the staff serjeants.

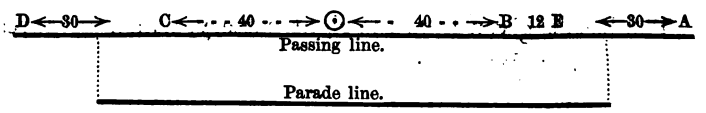
As the inspecting officer arrives about 40 yards from the commanding officer, he gives the word "*General Salute*," "*Eyes Centre*," "*Draw Swords*"; the time being taken from the commanding officer, officers, non-commissioned officers, and gunners draw swords, the officers coming down at the last motion to the salute.

The band plays, or trumpets sound, according to the rank of the inspecting officer, after which the officers recover and carry swords, with the commanding officer.

Should the inspecting officer be under the rank of brigadier-general he will be received with "Carried Swords"; the officers will not salute. The commanding officer accompanies the inspecting officer while he makes his inspection.

As soon as the inspection has been made the commanding officer gives the word "*Slope Swords*," "*Close Order*," "*March*"; rear rank, guns, and wagons, trot up to close order. Subalterns remain at order.

When the caution is given to march past, the captain marks the passing line by placing points as follows:—



No. 5. of No. 3 subdivision at point B, 40 yards on the right of the centre, facing the battery, and on a line about four yards in advance of that upon which the reviewing officer is supposed to take post. No. 5 of No. 4 subdivision places himself at C, at an equal distance on the left of the centre, dressing by the first-mentioned point, and the captain who posts himself at E, about 12 yards beyond that marker until the second has placed himself correctly. Nos. 5 of No. 2 and 5 subdivisions move out to A and D, each outflanking the battery by about 30 yards, and dress by the points B and C. The captain proceeds to point A to superintend the covering.

MARCHING PAST.

A Battery to March Past in Line at Close Interval.

The major gives the command, "*The Battery will march past at close interval*," "*Detachments on the left backwards*

wheel," "*March.*" The Nos. 1. giving the word "*Halt,*" "*Dress,*" when square.

At the word "*Walk,*" "*March,*" the staff fall out and do not again fall in with the battery, but must remain on the ground until the conclusion of the review. The trumpeters take post for manœuvre, the detachments advance, the guns coming up on their right.

When the head of the column arrives at the first wheeling point opposite A, the No. 1 of the leading subdivision gives the word "*Left Wheel,*" "*Forward*"; and when the head of the column arrives at the point A, the major gives the word, "*Subdivisions Left Take Ground,*" "*Guns Rear,*" "*Close Interval on* 1," upon which the rear subdivisions incline to their right after taking ground and move up to close interval at an increased pace, the subalterns taking post one horse's length in front of their divisions.

The major in the centre, one horse's length in front of the subalterns.

The serjeant-major marches past in rear of No. 1, quarter-master-serjeant in rear of No. 6, the farrier in rear of No. 2, the mounted shoeing-smith in rear of No. 5 subdivision; the senior trumpeter one horse's length on the outer flank of, and in line with the front rank (where he goes on arrival of the battery at the point B); the other trumpeter in rear of No. 4 subdivision in line with the staff serjeants; the captain one horse's length in rear of the serjeant-major.

At the point B, the major gives the word, "*Carry Swords,*" "*Eyes Right,*" upon which the drivers salute.

At 10 yards from the inspecting officer, the officers salute, subalterns taking the time from the major.

As soon as the major has passed the inspecting officer, he places himself on his right and carries his sword; at ten yards past the inspecting officer, the subaltern officers recover and carry their swords, taking the time from the officer on the right.

When the rear of the battery has passed the inspecting officer, the major rejoins his battery.

At the point C, the word "*Slope Swords*" is given by the senior subaltern, upon which the drivers throw back their whips, and the senior trumpeter falls out to rejoin the major.

At the point D, the major gives the word "*Left Wheel,*" also at the fourth wheeling point, and the battery is moved round to the point B.

RANKING PAST.

Previous to ranking past, the rear rank (if the detachments are incomplete) must close to the right and cover the front rank. In re-forming, the rear rank resume their former places in their detachments.

By Single File.

The battery being halted at the point B, on the command "*The Battery will Rank Past by Single File,*" the captain, or in his absence the serjeant-major, places himself on the right flank of the battery, and turns to his left to superintend the ranking off.

The trumpeters place themselves in single file in front of the No. 1 of No. 1 subdivision; the subalterns in front of the trumpeters; the major in front of the subalterns.

The distance from head to croup is four feet, or half a horse's length.

The major then gives the word, "*Carry Swords,*" "*Advance by Single File from the Right,*" "*March.*" At the word "*March,*" they move off, followed by the detachments, who advance by files, first a front-rank, and then a rear-rank man.

The guns move off from the right, then the wagons and spare carriages, in succession. Four yards is kept between each carriage on the passing line, all covering from the front. The drivers salute without any word of command at the point B.

The shoeing-smith ranks past in rear of the rear carriage, followed by the farrier, quartermaster-serjeant, serjeant-major, and captain.

The officers salute in succession when within 10 yards of the inspecting officer. The major, after passing the inspecting officer, places himself on his right, as before. At the point C, the drivers throw back their whips. At D, the senior subaltern gives the word "*Front Form,*" the battery re-forms (no carriage leaving the passing line until it arrives at the point C), and when formed "*Slope Swords.*"

The major gives the word "*Left Wheel,*" also at the fourth wheeling point, and the battery is moved round to the point B.

Spare horses do not rank past.

By Sections.

The battery being halted at the point B, on the command "*The Battery will Rank Past by Sections,*" the captain,

or in his absence the serjeant-major, places himself on the right flank of the battery, and turns to his left, to superintend the ranking off.

At the word "*Carry Swords,*" *Advance by Sections from the Right,*" the right-hand section advances four horses' lengths, the remainder wheel "Fours Right." The trumpeters place themselves one horse's length in front of the leading section, extending from the right, one horse's length from each other. The senior on the passing line.

The subalterns in line in front of the trumpeters, at the same distance and interval from the right. The major places himself on the passing line one horse's length in front of the subalterns.

After the word "*March,*" the leading section advances extending from its right; the remainder follow and extend, first a front-rank section and then a rear-rank section, dressing by the right and covering from the front.

There is to be a horse's length from nose to croup, and also from knee to knee. All dressing by the right and covering from the front.

The guns of the right half battery follow the detachments, the off horses of No. 1 covering the right files, and the riding horses of No. 3 covering the left files of sections. No. 2 gun will be in rear of the centre of the sections.

The guns of the left half battery follow in rear of and cover those of the right; the wagons of the right half battery follow the guns, and those of the left half battery follow in rear of them.

The drivers salute without any word of command at point B.

The staff serjeants, farrier, and shoeing-smith will form a section in rear of the carriages.

The captain one horse's length in rear of the serjeant-major.

The officers salute when within 10 yards of the inspecting officer, the subalterns taking time from the major, who, after passing the inspecting officer, places himself on his right as before. At the point D, the senior subaltern gives the word "*Front Form,*" when the battery is re-formed "*Slope Swords.*"

If trotting, the officers and drivers do not salute.

TROTTING PAST.

The major gives the word, "*The battery will trot past,*" "*March.*"

At the point B, "*Carry Swords*," "*Eyes Right.*" He falls out as before. At the point C, "*Slope Swords*" is given.

Spare horses or carriages do not trot past.

GALLOPING PAST.

Galloping past left in front is generally preferred, because time is saved by not marching the full square.

After trotting past at close interval, if the battery is to gallop past, the major gives the word "*Walk*" after arriving at the point D, followed by "*The Battery will change Front to the Rear*," "*Half Batteries Inwards about Wheel*," "*Forward, Eyes Left*," "*Halt.*" "*The Battery will gallop past*," "*Advance from the Left in Column of Half Batteries*," "*Full Interval, Guns Right*," "*March.*" "*Gallop.*" The left half battery takes full interval from the left, the right half battery opening out and covering it. At C, "*Carry Swords*," at B, "*Slope Swords.*" After passing the point A, "*Trot, Right Wheel*" is given.

In galloping past, the subalterns are between their subdivisions.

To "*Gallop past in line at half interval*," after trotting past, the battery, on arriving at D, receives the word "*Half Interval from the Right*"; when the half interval is gained, "*Change Front to Rear by Half Batteries wheeling about inwards*," proceed as above, and after passing the point A, "*Trot, Right Wheel, Close Interval.*"

The battery is then re-formed opposite the saluting point at full interval. The major gives the word "*Carry Swords*," on wheeling into line.

Wagons do not gallop past, but at the word "*Walk*" after trotting past they will leave the battery by the right or left flank as most convenient.

DIVISIONS OR HALF BATTERIES.

In marching past in column of divisions or half batteries, the officers commanding divisions give executive words of command to their divisions or half batteries.

In marching past at full or half interval, the subalterns are one horse's length in front of their divisions.

In ranking past from divisions or half batteries, quarter column must be formed before ranking past at point B, and the leading division or half battery must wheel to the left immediately it is re-formed at the point D, advance the depth of the column at the pace the battery is moving, and halts.

If there is only one subaltern with a half battery, he marches past in front of the centre of his half battery.

SWORD EXERCISE.

The sword exercise is usually performed when the battery has marched past and formed on the original ground after galloping past.

The major orders, "*Detachments Advance closing on the Centre for Sword Exercise—March.*"

At the word "*March,*" No. 3 detachment advances four horses' lengths, and halts by word from its No. 1.

No. 1 of No. 4 gives the words "*Advance,*" "*Right Wheel,*" "*Forward,*" "*Left Wheel Up.*" "*Halt,*" "*Dress.*"

The subaltern of the right division gives the word, "*Detachments Advance,*" "*Left Wheel,*" and the Nos. 1 of right division in succession, "*Right Wheel Up,*" "*Forward,*" "*Halt,*" "*Dress.*"

The subaltern and Nos. 1 of left division act in a similar manner with their detachments.

The serjeant-major follows No. 1 detachment, the quartermaster-serjeant No. 6, and when in line cover the rear-rank flank men. The whole being formed as above on No. 3, and with the officers in front of the centre of their divisions, at one horse's length distance, the captain dresses the line from the right flank, and gives the word "*Steady,*" when the major orders "*Eyes Front.*"

The captain remains on right of and facing the flank of front rank.

The major then orders "*From the Right of Fours to the Front File,*" "*March.*" The officer of the right division places himself in front of the right, and leads to the front; the officer of left division in like manner leads from the left; the officer of centre division dividing the distance between them, all dressing to the right and maintaining their proper intervals from that flank.

The serjeant-major becomes the rear file of the right, the quartermaster-serjeant of the left.

The captain superintends the dressing; when sufficiently advanced the major orders "*Halt,*" "*Dress.*" When the covering and dressing is completed, he orders "*Eyes Front.*" The captain then falls in two horses' lengths in rear of the centre.

The sword exercise is then performed, on the conclusion of which the major orders "*Front Form Ranks,*" "*Carry Swords,*" "*Eyes Centre,*" "*Return Swords,*" "*Detachments Left,*" "*Outwards Wheel,*" "*March.*"

On the word "*March,*" the serjeant-major and quartermaster-serjeant move along the front towards the flanks,

the detachments wheel outwards in succession and follow them, the subalterns move with their divisions, all wheel up and halt opposite their proper position, when they move to the battery, dressing by the centre, coming about together on the left of their guns.

BRIGADE.

The brigade is formed in line, the officers at order as detailed for single battery.

The commanding officer in the centre two horses' lengths in front of the lieutenant-colonels.

The lieutenant-colonels in the centre of their commands two horses' lengths in front of majors of batteries.

The adjutant having dressed the line of captains and subalterns, places himself two horses' lengths on their right.

The brigade serjeant-major having dressed the wagons places himself in line with the front rank, covering the adjutant.

The brigade staff officers one horse's length on the right of the brigade serjeant-major.

All the trumpeters one horse's length on the right of the brigade staff officers.

When two batteries are inspected, they will be under the command of a lieutenant-colonel or the senior officer present.

When a brigade consists of more than three batteries, it should be told off in brigade divisions, and a lieutenant-colonel or other officer appointed to command each brigade division.

After the salute has been given, the officers commanding brigades, or brigade divisions will post themselves on that flank of their commands to which the inspecting officer repairs, where they will receive him and accompany him to the extent of their commands, after which they will resume their original posts.

MARCHING PAST.

At the caution to "*March Past,*" the adjutant marks the passing line in the same manner as laid down for a battery, the points being given by farriers and quartermaster-serjeants.

The commanding officer gives the word "*The Brigade will march past in Column of Batteries,*" "*Close Interval.*"

The staff officers fall out, and the trumpeters rejoin their respective batteries. The trumpeter accompanying the com-

manding officer marches past half a horse's length to the right or left rear of him, according to the flank the marching past is from.

The brigade then marches past as detailed for a single battery.

In marching past the lieutenant-colonel or officers commanding brigade divisions are two horses' lengths in front of the majors commanding the leading battery of their brigade divisions.

At "Reviews" and "Field days" the senior officers commanding the parade and brigades fall out after saluting, and place themselves on the right of the reviewing officer. Lieutenant-colonels and majors remain with their brigade divisions and batteries.

At "Inspections" lieutenant-colonels and majors fall out and place themselves on the right of the inspecting officer.

The adjutant marches past two horses' lengths in rear of the captain of the rear battery. The brigade serjeant-major in rear of the left, dressing by the adjutant. The riding-master, if not required by the commanding officer, will march past in rear of the centre in line with adjutant and brigade serjeant-major.

RANKING PAST.

Before ranking past by single file or sections, quarter column should be formed on the leading battery at the point B, where the adjutant places himself on the right flank of, the front rank of the leading battery to superintend the ranking off. On the command, the leading battery ranks past as detailed for a single battery; the others move up in succession to point B before ranking off, the majors of the rear batteries maintaining a distance of 10 yards from the rear file of the battery in their front.

The brigade serjeant-major ranks past in rear of the captain of the rear battery, followed by the riding-master and adjutant. In ranking past by sections they form a section in rear of the whole.

At the point D, each battery is re-formed in succession.

As soon as the leading battery is re-formed, it wheels to the left, and advances the depth of the column and halts; the others form quarter column on it.

TROTTING PAST.

The commanding officer gives the word "*The Brigade will trot past in Column of Batteries,*" "*March.*" Each battery trots past as detailed for a single battery.

The adjutant trots past two horses' lengths in rear of the captain of the rear battery; the brigade serjeant-major in rear of the left, dressing by the adjutant.

GALLOPING PAST.

A brigade of batteries may be formed up after trotting past either in quarter column of batteries, or, if there are four or more batteries, in quarter column of brigade divisions. This formation must be made so that the rear of the column is some yards beyond D when halted.

In the first formation the column countermarches by batteries, "changing front to the rear," in the second "the column countermarches," by each brigade division changing front to the rear. The right batteries advance their own depth before wheeling to the left, and the left batteries wheeling to the right, as soon as the right batteries have advanced sufficiently to enable them to do so. The batteries then wheel up, and the column is halted at D.

A brigade of batteries, after trotting past, will receive the command "*Walk—Batteries will countermarch—Forward—Halt—Quarter Column on the Leading Battery,*"—"*The Brigade will gallop past in Column of Batteries, Half Interval—Guns Right—March—Gallop;*" or "*The Brigade will gallop past by Half Batteries, Full Interval—Advance from the Left in Column of Half Batteries, Full Interval—Guns Right—March—Gallop.*"

In advancing to gallop past, care must be taken to maintain the proper distance in column; to do this the half batteries or batteries ought to move off at half distance, getting the proper distance as they advance. "*Carry Swords,*" "*Slope Swords,*" is then given as laid down for a battery. The batteries when at half interval diminish to close interval on the right, when wheeling to the right, and "trot."

On arriving on the original ground, the brigade is wheeled into line previous to commencing manœuvres.

Swords to be carried on coming into line.

MARCHING PAST BY BRIGADE DIVISIONS.

If a brigade in "column of batteries, close or half interval," is to "march past by brigade divisions" (two or three batteries in line), the batteries forming the brigade

divisions must close, before reaching the point A, to such wheeling distance as will allow an interval of 10 yards at close, or 15 yards at half interval being preserved between the batteries when wheeled up on the passing line.

On arriving at the point D, the brigade division will wheel to the left, and re-form column as may be ordered.

SWORD EXERCISE.

When a brigade of batteries is required to perform the sword exercise, the commanding officer gives the word, "*Form for Sword Exercise*," on which the centre battery forms as a single battery, the others in front of their inward flanks, and on the command "*Close on the Centre*," "*March*," being given, they form by fours on the centre battery, An interval of four horses' lengths to be preserved between each battery.

The majors in the centre of their batteries, one horse's length in front of the subalterns.

The captains two horses' lengths in rear of the centre of their batteries.

The adjutant dresses the markers from the centre battery (which gives the base), who mark for the inward flanks of their batteries. When the formation is complete, and the word "*Eyes Front*" given, the markers fall in and the adjutant places himself on the right of the line of subalterns at two horses' length interval, the brigade serjeant-major in rear of him, dressing with the front rank. On the command "*From the Right of Fours to the Front File*," "*March*," each battery acts as laid down for a single battery.

The adjutant advances with, and dresses the subalterns. The brigade serjeant-major turns to the left, and superintends the dressing of the ranks, and resumes his place in rear of the adjutant when it is completed.

When the sword exercise is finished, the commanding officer gives the word "*Front Form Ranks*," "*March*," when formed "*Detachments left, outwards wheel*," "*March*." The detachments wheel outwards, and proceed as laid down for a single battery. The adjutant on the right and the brigade serjeant-major on the left marking points on the flanks of the brigade, in prolongation of the alignment, for them to march on. When opposite their proper positions the captain of the battery of direction gives a signal for them to move on their guns.

When there are an even number of batteries on parade, they are all formed on their inward flanks and closed to the centre.

"*Advancing in Review Order.*"—At the end of the review, if required to do so by the reviewing General, the battery (or batteries) will be formed up on the original ground, the officers in front.

The line will then advance, the band playing, and when at a convenient distance from the reviewing General, will be halted and ordered to salute.

PART IX.

FOOT PARADE.

Section 1.

Formation of a Battery or Brigade.

The battery falls in by subdivisions, the tallest men of 1, 3, and 5 on the right, of 2, 4, and 6 on the left, drivers in the rear rank, and are inspected by the Nos. 1.

Divisions are then formed, sized, and told off by the senior No. 1 of the division; rank and file non-commissioned officers with cavalry swords on the right. The rear rank three paces from the front rank. Supernumerary rank three paces from the rear rank. Should the number in a division be less than 16 files the battery should be formed in two divisions.

When parading as a single battery the serjeant-major marches the divisions on their coverers, who have been placed in column by him.

In line, an interval of three paces is to be kept between divisions, and five paces between batteries on brigade parades.

In quarter-column the distance of four paces is to be preserved between the front rank of one division of a battery and the rear rank of the division in front of it, and eight paces is to be preserved between batteries on brigade parades.

The divisions are inspected by the subalterns, who report to the captain, or, in his absence, the subaltern on duty, and the battery handed over by him to the major.

When two or more batteries parade together the major inspects his battery on its private parade, and marches it to the general parade.

When a brigade consists of more than three batteries, it should be told off in brigade divisions, and a lieutenant-colonel or other officer appointed to command each brigade division.

Posts of Officers and Non-commissioned Officers.

Commanding Officer.

In line.—In the centre, three paces in front of lieutenant-colonels.

Lieutenant-Colonel.

In line.—In the centre, three paces in front of the majors.

In column.—In the centre, six paces on pivot flank.

Major.

In line.—Three paces in front of centre of line of officers.

In column of batteries.—One pace in front and three paces on pivot flank.

In column of divisions or half batteries.—Three paces on pivot flank of centre of battery.

In quarter column.—Three paces on pivot flank of the leading division.

Captain.

In line.—One pace in rear of centre of supernumerary rank.

At order.—Three paces in front of second file from right of front rank in line with subalterns.

In column of batteries.—As in line.

In column of divisions or half batteries.—Three paces on outer flank opposite the major.

In quarter column.—Three paces on the outer flank of the leading division.

Subalterns.

In line or column.—Three paces in front of the centre of divisions.

In quarter column.—One pace in front of the centre of divisions.

In fours, &c.—On pivot flank, three paces from the centre of divisions.

Staff Officers.

In line and at order.—One pace on right of batteries, dressing by the front rank.

Adjutant.

In line.—In centre of the brigade in line with subalterns.

In line and at order.—Three paces on right of line, dressing with captains and subalterns.

In column.—Three paces on the outer flank in line with the leading division or battery.

In quarter column.—One pace on right of captain of leading battery.

Brigade Serjeant Major.

In line.—Covering the adjutant, in line with the front rank.

In column.—Covering the adjutant, in line with the rear rank of leading division, or battery.

In quarter-column.—Covering the adjutant in line with rear rank of leading division, or battery.

Brigade Staff Officers.

In line.—One pace on right of brigade serjeant-major.

Staff Serjeants and Serjeants.

Battery serjeant-major on right of supernumerary rank of right division.

Battery quartermaster-serjeant on left of supernumerary rank of left division.

Serjeants and serjeant artificers in the supernumerary ranks, equally divided among divisions.

The senior No. 1 of each division acts as coverer to the division, and is on the pivot flank of the front rank in column, and on the left of the front rank when in line.

In quarter column.—The supernumerary rank on the outer flank of their respective divisions.

Trumpeters.

In line.—One pace on right of staff officers.

SECTION 2.

MOVEMENTS.

On foot parade, the few movements necessary for the exercise of a battery or brigade are performed by divisions or batteries and assimilated as nearly as possible to the mounted drills; the movements by "fours" being substituted for those of "Sub-divisions," viz., "Fours about" for "Right reverse," or "Right about wheel," "Fours Right or Left" for "Sub-divisions Right or Left take ground," or "Right or Left wheel."

All formations from line to column, or the reverse, are done by square movements.

On foot parade officers do not repeat the commanding officer's word of command, but only give their executive words.

NO. 1.—A BATTERY IN LINE TO ADVANCE IN COLUMN OF DIVISIONS.

Commanding Officer.	Officers.
Advance in Column of Divisions from the Right—Quick March.	Of Right Division—*Advance.* Of Centre and Left Divisions—*Fours Right.* (In succession)—*Fours Left—Forward.*

NO. 2.—A COLUMN OF DIVISIONS TO WHEEL INTO LINE.

Commanding Officer.	Officers.
"*Wheel into Line*"—"*Quick March.*"	Of Right, Centre, and Left Divisions—*Halt.*

At the word "*Wheel into line,*" the major turns to the right. The officers in command of divisions place themselves six inches clear of the line of dressing, fronting where the centre of their divisions will rest when in line; the senior supernumerary of the right division doubles out and marks where the right of the line will rest. The coverers face to left, draw their swords and are dressed by the captain from the head of the column. When dressed they receive the word "*Steady.*"

At the word "*March,*" the divisions wheel into line, and are halted by the subalterns, who assist to correct the dressing, and when the dressing is completed, give the word "*Steady.*" The major then gives the word "*Eyes front,*" when the officers turn right about and take their posts in line.

No. 3.—A Column of Divisions to Form Line on the Leading Division.

Commanding Officer.	Officers.
Form Line—Quick March.	Of Centre Division—*Fours Left—Fours Right—Forward—Halt—Dress.* Of Rear Division—*Fours Left—Fours Right—Forward—Halt—Dress.*

No. 4.—A Column of Divisions to Form Line on the Rear Division.

Commanding Officers.	Officers.
On the Right of the Rear Form Line—Quick March.	Of Leading and Centre Divisions—*Fours Right—Fours Right—Forward—Halt—Fours About.*

No. 5.—A Quarter Column of Divisions to Change Front to a Flank.

Commanding Officer.	Officers.
Column will change Front to the Right—Quick March.	Of Leading Division—*Right Wheel—Halt.* Of Centre and Rear Divisions—*Fours Left—Leading Fours Right Wheel—Fours Right—Forward—Halt.*

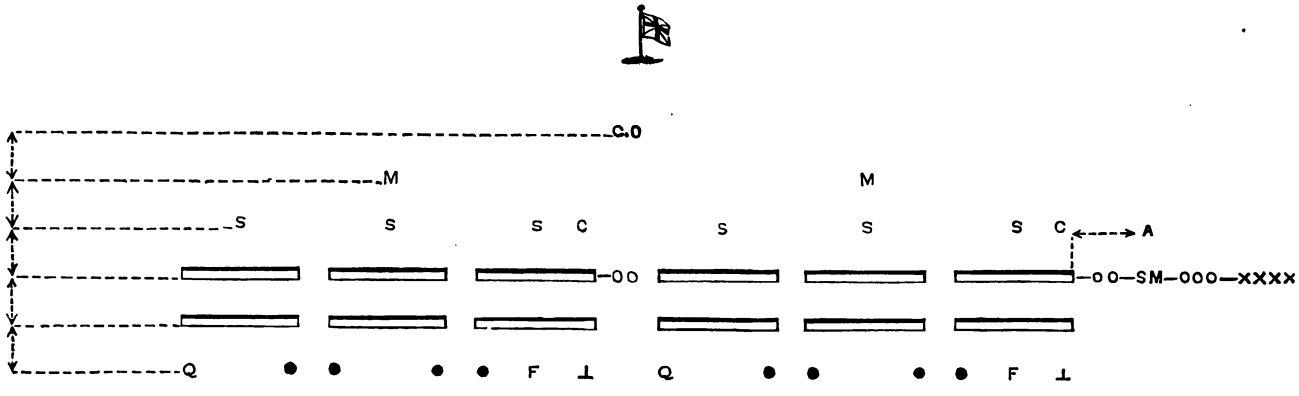
If the column is moving, the word of command will be "*Column will Wheel to the Right,*" and the movement is done as above, the leading division stepping short, when the rear divisions are covering, the word "*Forward*" will be given by the commanding officer.

A quarter column, consisting of more than two batteries, will change front by "brigade divisions," each brigade

To face Page 357.

PLATE XXXVI.

FOOT PARADE OF TWO BATTERIES AND STAFF FOR INSPECTION.



The spaces marked — each represent one pace.
The spaces marked ⟵ - - ⟶ each represent three paces.

The distance between batteries is five paces.
The distance between divisions is three paces.

division moving up to the wheeling point in succession before changing front.

No. 6.—To Countermarch.

A battery or brigade in line required to change or reverse its front. Each battery will change front by the countermarch of divisions, as laid down, viz., "*Fours right and left;*" each division halting and fronting when the countermarch is completed.

The countermarch of a quarter column of divisions or batteries is performed in a similar manner.

Section 3.

Inspection and Review.

The line being formed (see plate XXXVI.) the commanding officer gives the word "*General salute,*" "*Eyes centre,*" "*Draw swords.*" The time being taken from the commanding officer, the officers coming down at the last motion to the salute.

The band plays or trumpets sound according to the rank of the inspecting officer, the officers then "recover" and "carry swords" with the commanding officer. The commanding officer accompanies the inspecting officer while he makes his inspection.

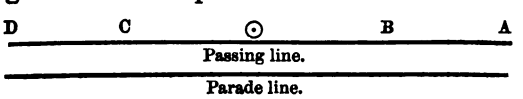
Should the inspecting officer be under the rank of a brigadier-general, he will be received with "carried swords;" the officers will not salute.

Should gunners parade with carbines they will "present arms" at the word "*Draw swords,*" and "shoulder arms" when the officers "recover" and "carry swords"; at "*Slope swords*" they "support arms."

After the salute has been given the officers commanding brigades, or brigade divisions, will post themselves on that flank of their command to which the inspecting officer repairs, where they will receive him and accompany him to the extent of their command, after which they will resume their original posts.

Marching Past.

At the caution to "*March past,*" the staff officers fall out, points will be placed by the captain for the several wheelings, and for the passing line four paces in front of where the inspecting officer will be placed.



The points B and C each 30 yards from that spot.

The commanding officer gives the word "*By the wheel about of fours*," "*Column of divisions to the right*," "*On the centre, fours about*," "*Divisions*," "*Right wheel*," "*Quick March.*"

At the word "*Fours about*," the officers and supernumerary rank turn right about, fours wheel about on the centre.

The divisions wheel to the right and receive the words "*Halt*," "*On the Centre, Fours about*," "*Dress*," from the subalterns. Each division takes up its own dressing. The major turns to his left. The captain moves to his position in column.

The command is then given "*The column will march past in slow* (or *quick*) *time*"—"*March.*"

When the head of the column arrives at the first wheeling point the subaltern of the leading division gives the word "*Left wheel*," "*Forward*," and when it arrives within wheeling distance of A it is wheeled again to the left. When square, each division receives the word "*Forward.*" The coverers shift by the rear to the right of front rank. The major places himself six paces in front of the leading division.

The officer commanding each division, as it arrives at the point B, gives the word "*Carry swords*," "*Eyes right.*" Carbines are shouldered at the word "Carry swords."

At ten paces from the inspecting officer, officers salute; at six paces beyond him they "recover" and "carry swords."

The major places himself after passing, on the right of the inspecting officer until the battery has passed.

As each division arrives at the point C, the word is given "*Slope swords*," "*Eyes front.*" Carbines are "supported."

The captain marches past in rear of the battery, three paces in rear of the supernumerary rank covering the second file from the right, remains there till the battery reaches the point C, and then resumes his place in column.

Each division wheels to the left at the point D, the subalterns giving the word "*Eyes left.*" They wheel again at the fourth wheeling point.

To break into "quick time" the caution is given "*Break into quick time*," followed by "*Quick*," when the whole take up the time together.

In marching past in "quick time" the column wheels as before, swords are "carried" at the point B, and "sloped" at the point C.

If the battery has not previously marched past in "slow time" the officers salute. At the point D, the column is wheeled to the left.

After marching past in "quick time," the column is halted when it has arrived on the parade line, and wheeled into line. The major gives the word "*Carry swords*" on wheeling into line.

Should the sword exercise be required it will be usually performed when the battery is halted on the original ground after marching past.

At the conclusion of the review, should the inspecting officer require it, the line advances in parade order by the word "*Advance in parade order*," "*Carry swords*," "*Slow march;*" and when at a convenient distance from the inspecting officer, "*General salute.*" The officers come to the "recover" and lower their swords to the saluting position, and again "recover" and carry their swords with the commanding officer.

If a battery is required to march past in line, the divisions will be wheeled into line at the point A, and on arriving at the point D, the battery will be wheeled to the left and column formed as ordered.

PART X.

MISCELLANEOUS SUBJECTS.

Section I.—Transport of Artillery by Railway.

An officer and an intelligent non-commissioned officer will precede the troops, and, in concert with the station master, will label or mark off, with a piece of chalk on the footboard of passenger carriages, and in a conspicuous place on the side of the cattle trucks and horse boxes, the subdivision of the battery allotted to them, and the number of men or horses each will hold. The bottoms of cattle trucks should be carefully inspected the day before being used for the conveyance of horses, as accidents are likely to arise from the planks being unsound.

As a rule the compartments of railway carriages intended for 10 ordinary passengers are to be allotted to eight soldiers with their arms and accoutrements, and those for eight passengers to six soldiers. Each battery will be told off in sections corresponding with the capacity of the carriages provided.

On long journeys when it is intended to halt for refreshments, an officer and non-commissioned officer should be sent forward, when practicable, to make the necessary preparations for what the troops may require, and to have buckets and a supply of water ready for watering the horses; they must be furnished with a statement of the number of persons who require refreshments, and the nature of the articles they require.

When the train is ready to proceed, "*Attention*" will be sounded. Silence must be maintained until the train moves off, no shouting to be allowed, and no man is to put his head out of a window or leave a carriage without permission, or get out on the reverse side of the train, except when ordered by his officers, or requested by the railway officials to do so.

On arrival at the place agreed upon for the train to halt, the officers will get out and go to their division carriages. Sentries from the quarter guard will be posted to prevent the men from straggling or getting out at the wrong side of the train. When these arrangements are completed the "*Halt*" will be sounded, and those who require to do so will get out of the train, leaving their arms in the carriages.

When it is time to proceed, the "*Close*" will sound, on which the men will all return to their carriages; the officers will see that their men are all present, and having so reported to the commanding officer, the serjeant of the guard will be ordered to withdraw the sentries and return to his carriage. Lastly, the officers will get in, and the commanding officer will give directions that the train may proceed.

When it is intended to water and feed the horses during a halt, the "*Feed*" will be sounded, when the men will get out of their carriages and proceed at once to the trucks containing their horses, water in buckets having been provided by previous arrangement: one man will then get into the truck, and water each horse in succession, the buckets being passed to him from the outside. The horses may then be fed with corn from the nose bag in the usual manner.

A field battery or battery of horse artillery will generally be conveyed in two trains, the trains for the former consisting of about 24 carriages, for the latter of about 30.

On the arrival of the battery at the station it should be drawn up in the nearest convenient spot. The men will dismount, and after being permitted to fall out for necessary purposes, will then be formed up two deep, take off their accoutrements, and, some convenient place being selected, will lay them on the ground in the order they stood in the ranks.

The horses will then be unhooked, and told off in sections according to the capacity of the cattle trucks; each section will then file off to the truck allotted to it, under the direction of the officer commanding the division, and be embarked. The gunners will assist the drivers in the embarkation of the horses, and on the conclusion of this duty the whole will proceed to embark the *matériel*.

In embarking the guns, wagons, and carriages, trucks loading from a dock are, if possible, to be used; when, as is the case on some railways, the ends of these trucks let down and meet, the carriages of the battery may be run on from one to the other in a few minutes. These trucks, however, are not so convenient when there are no docks or other facilities for unloading, and should in such cases be avoided.

Trucks having sides letting down are next in point of convenience, and lastly, low-sided trucks. Most of these take conveniently a gun or wagon with its limber.

Carriages must, when loaded from a dock, be run on to the truck unlimbered. The wheels must be well secured

with lashing rope and scotches, the latter being generally procurable at railway stations. Should there be hay on the wagons it is not to be suffered to remain during the journey, but must be placed in a luggage van.

Low-sided trucks are found on most railways; the loading on these requires more manual labour than on other trucks, as it is necessary to lift the carriage over the sides by main force. The gun (or wagon) and its limbers are to be placed on the truck with the trail (or perch), and the shafts pointing inwards and resting on the axletree boxes.

There are some trucks on which more than a gun and limber may be placed, reference being always had to the weight which they are calculated to bear.

These large trucks are not recommended when others can be obtained. When used they should, if possible, be loaded at the end, as the operation when performed from the platform is most laborious.

No projections, whether guns, shafts, or spare wheels, are on any occasion to extend beyond the buffers.

The carriages being embarked and secured, the gunners will take up their swords and accoutrements and the whole detachment fall in two deep and be told off in squads corresponding to the capacity of the compartments of the railway carriages; care being taken that one non-commissioned officer at least should be in each compartment, and in cases where this is not practicable the senior soldier is to be placed in charge.

On the arrival of the train at its destination the officers will get out first, and the trumpeter will be ordered to sound the "*Halt*," when the men will descend. The gunners will fall in and be marched to a convenient spot to deposit their swords and accoutrements. Should the drivers have been wearing their cloaks, those of each subdivision will place them together where directed by the non-commissioned officer in charge.

In the event of the platform not being of sufficient length to enable the entire train to draw up alongside it, the horses are to be disembarked first. The door of each truck will be let down, a mat or straw placed upon it, and the horse opposite the door led or backed out, the rest following in turn. The horses are to be formed up at the discretion of the commanding officer, and the carriage trucks brought alongside the platform.

The guns, &c., will be taken off by the gunners, and whether this is done at a dock or at the platform the horses

of each carriage will be hooked in as soon as it is disembarked, and it will be drawn to the place of parade indicated by the commanding officer, so as to clear the ground as soon as possible.

Should it be possible to disembark horses and *matériel* simultaneously in consequence of the capacity of the platform, it may be done. When this is the case, the gunners being unable to assist in disembarking the horses, a non-commissioned officer should take the first horse of each pair out of the truck, the driver, following with the other, should then take charge of both horses.

As it may become necessary to disembark without the aid of a platform of any sort, some strong skids, not less than 15 feet long, and some planks to form a ramp should always be carried. In case of urgent necessity two lengths of rail may be used for the same purpose; but it is believed that a small temporary platform may be made by the employés of the railway in a sufficiently short time in ordinary cases.

SECTION 2.—EMBARKING AND DISEMBARKING.

The following directions will be found applicable to nearly all the cases likely to occur: such as embarking or disembarking from a beach; from a wharf; with or without boats; in presence of an enemy, &c., &c.

EMBARKING GUNS AND CARRIAGES.

On the arrival of the battery at the place of embarkation, it is to be drawn up in as compact order as is consistent with the performance of the operations required. The horses are to be taken out; the harness taken off and packed in vats and the stores in cases. When there are no vats and cases the stores must be secured to the carriages or tied together: the intrenching tools may remain with the carriages. The non-commissioned officers in charge of sub-divisions will attach to their harness and stores, pieces of basil having the number of their sub-divisions written upon them. The harness for each carriage should be embarked with it.

The gun detachments will prepare the carriages for embarkation. They will take off the side arms and secure them together, take out the elevating screws, unkey the cap-squares, and unstrap the ammunition boxes. Each carriage, when called for, is to be run forward to the boat or crane; the gun is to be unlimbered and dismounted;

the ammunition boxes, shafts, wheels, &c., to be taken off the washers and linchpins must be carefully put away in the axletree boxes. Every article must be stowed away with the greatest care, and arranged so as to be got at without delay.

Those articles which will be the last required when disembarking are the first to be embarked. The divisions, and everything belonging to them, should be kept together as much as possible. The first to be embarked are the spare carriages and forge, which are to be stowed forward, the left division next to them, and before the main hatchway; the centre abaft the hatchway; the right under the hatchway. The whole of the guns are to be put together, generally in the bottom of the hold, vents turned downwards, and a fid in them, to prevent their being choked.

When a battery is embarked in different vessels, every part should be complete, and a proportion of general stores be on board of each. The cartouches with the ammunition must be taken out of the boxes, and stowed in the magazine. The ammunition must be so placed that whatever part belongs to any particular carriage may be got at without difficulty. The boxes must be stowed well aft in the hold, or between decks, and they should be well covered with wadmill tilts, or hair cloths.

In embarking from a beach, it may be necessary to erect small sheers, made of a couple of top-gallant masts, previously prepared for the purpose. If boats are employed, the loads must be regulated by the state of the weather, and distance of the vessels.

When the vessels can come alongside a wharf, if the horses cannot be walked on board, they are hoisted in by means of tackle. The slings, made of canvas, should be minutely inspected, to see that they are secure. There must be a double guy made fast to the horse's head, one end on shore, the other on board, to keep his head steady.

A horse requires five men to sling him, one at his head, one on each side, one at his breast, and one behind. One end of the sling is passed under his belly, and both ends made to meet over his back; one man passes his loop through the other loop, it is received by the man on the other side, who hauls it through, hooking the tackle to it, both men holding up the ends of the sling. The men at the breast and behind bring their ropes round, and make them fast to the grummets. The man who holds the horse's head, makes fast the guys to it, the word *Hoist away* is

given, and he is hoisted on board. The sling is then taken off, and he is led to his place; the first horses being always placed forward or aft, as the ship fills; the stalls nearest the hatchway being reserved for the horses which are to be first landed.

The horses are to be embarked in the same order as the carriages, taking care that the officers' and non-commissioned officers' horses are on board with the divisions to which they belong. The farriers and shoeing smiths should be distributed in different ships.

When horses are embarked in boats, sheers or a derrick are necessary. The head of the derrick must incline inwards when the horse is rising, but when he is high enough, the head of the derrick or sheers must be forced out, to bring the horse over the boat. This applies to a beach or wharf. Sand or straw should be put in the boats, to prevent the horses slipping. They should stand athwart, the head of one horse being on the starboard, and the head of the next on the port side. The men sit on the gunwale, or stand between the horses, one man to each horse.

When horses are embarked from an open beach without any appliances, they are to be led to the boat, and the halter given to one of the men in it. The horse must then be made to walk or leap into it, the gunwale of the boat being inclined towards the shore. A quiet horse should first be embarked, and the others will more readily follow.

In embarking in presence of an enemy, the horses and carriages should first be embarked, the guns being retained to the last, to repel any attack. If the position be a mile or two from the place of embarkation, it may be necessary to retain a portion of the horses.

DISEMBARKING.

The disembarkation is the reverse of what has been detailed. The harness is the first thing sent on shore. If the water is smooth, with little surf, it may be easily carried on upon the beach, and the horses made to leap out of the boats.

In disembarking in presence of an enemy, the guns should be put into boats mounted; launches of men-of-war being best adapted for this purpose. The muzzle of the gun must point forward in the boat; and as soon as the boat takes the ground, the gang boards are put out, and the gun run ashore. The limber should accompany the gun.

SECTION 3.—REMARKS ON SLEIGH CARRIAGES IN THE SERVICE OF ARTILLERY.

(*Plate* XXXVII.)

GENERAL REMARKS.

Sleighs are used for the conveyance of artillery, during the winter, in Canada.

The sleigh at present in use consists of a platform six feet ten inches long and three feet ten inches wide, placed on runners 16 inches high; upon this rest two strong transoms, to which the brackets supporting the gun are secured. A box, distinct from the ammunition boxes, is placed on each side of the gun, together capable of containing about thirty rounds of ammunition, and which serve as seats. These boxes usually contain the shot and small stores carried in the axletree boxes, as well as long reins for driving, when in single draught.

The extreme breadth of the runners is three feet, which though broader than the sleighs used by the "habitans" of Lower Canada, is not so broad as to prevent their travelling over any of the ordinary roads of the country.

These sleighs are capable of conveying the summer carriages for a short distance, in case of emergency; they can also be carried upon the wheel carriages.

The manner in which a gun with its ammunition is arranged on the sleighs is as follows:—

Three sleighs form one sub-division.

On the first is mounted the gun, with its side arms.

The front boxes of the waggon body and the gun limber boxes are carried on No. 1 ammunition sleigh.

On No. 2 ammunition sleigh the rear boxes of the wagon body and the wagon limber boxes are placed.

The knapsacks are carried on the ammunition sleighs.

If the roads are good, two horses are sufficient for each sleigh; but four horses are usually put to the gun, and two to each of the ammunition sleighs. This arrangement is only suitable for parade and exercise on good roads, as the gun is the lightest of the three sleighs which compose a sub-division.

When a battery is on a march, the snow being deep, and the roads narrow, it will, generally speaking be found most convenient to have the spare horses either in front or distributed betweeen the sub-divisions they are intended to assist; this is very necessary, on account of the impossibility of moving from the rear to the front.

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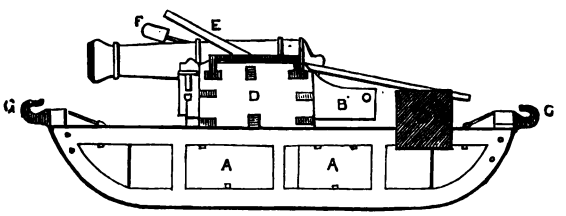
PLATE XXXVII.

SLEIGHS.

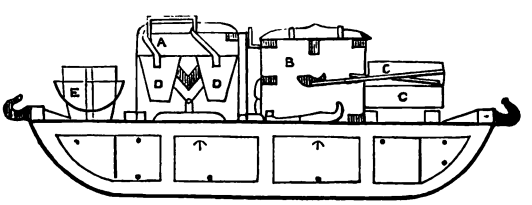
Fig. I. *Gun Sleigh.*

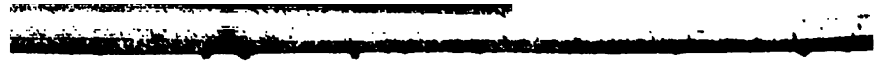


A *The Sleigh.*
B *The Bracket.*
D *Side Boxes.*
E *Handspike.*
F *Sponge.*
G *Shaft Hooks.*

Fig. II. *Ammunition Sleigh.*

A *Rear Box Waggon Body.*
B *Boxes of Waggon Limber.*
C *Knapsacks.*
D *Water Buckets.*
E *Camp Kettles.*





When descending a hill, the drivers should go straight down however steep; the steeper and smoother the descent is, the greater the danger of the rear of the sleigh slewing round. When a sleigh slews in this manner, the horses should be thrown off to the side to which the sleigh is inclined to slew, and if this is not sufficient to check it immediately, they should be pulled up. The drag train should be invariably used in going down steep places, when the roads are slippery.

When the road is narrow, it sometimes becomes necessary to put the horses into single draught. With two horses to each sleigh, the off horse remains in the shafts, which are shifted to the centre of the sleighs. Long reins are buckled on, and the horses driven from the sleigh. The near horses, having each a pair of leading traces hooked on to their collars, are then hooked on in front of the shaft horses, the drivers remaining mounted. Should a third horse be required, he should be placed between the others, and as he cannot be led, the leading rein may be attached to the crupper ring of the leading horse.

It should be borne in mind that on service long reins would always be used. In the intense cold of a Canadian winter a man cannot ride for any length of time, though the ordinary system of driving does well enough on parade.

In Ontario and New Brunswick the country sleighs are all constructed for double draught, in the provinces of Quebec and Nova Scotia no draught except single is used. In the neighbourhood of towns where the roads are beaten and good, these differences may be disregarded, but in the deeply grooved roads in the country, nothing but the system in vogue in that part of the country could be employed.

HOOKING IN.

When a battery is ordered out, the detachments form the order of march, as with wheel carriages, and shift after hooking in. When about to be dismissed, the men shift again, so as to be on their proper sides for unhooking.

Nos. 2, 3, 4, and 5 hook in horses of gun sleigh.

Nos. 6 and 7 those of No. 1 ammunition sleigh.

Nos. 8 and 9 those of No. 2 ammunition sleigh.

POSTS OF DETACHMENTS WITH SLEIGH CARRIAGES.

The position of a gun on a sleigh being reversed (*i. e.*, the muzzle to the front instead of to the rear), it becomes

necessary to alter the positions of the detachment, that each man may find himself on his proper side of the gun when it is brought into action.

The odd numbers or front rank will be on the left or near side; the even numbers or rear rank on the right or off side. Nos. 1 on his horse; 2 and 3 in line with the muzzle; 4 and 5 in line with the breech; 6 and 7 one yard in rear of 4 and 5; 8 and 9 one yard in rear of 6 and 7.

No. 1 on his horse; No. 4 on the right; No. 5 on the left of the front boxes, No. 2 on the right; No. 3 on the left of the rear boxes of No. 1 ammunition sleigh. No. 6 on the right, No. 7 on the left of front boxes; No. 8 on the right, No. 9 on the left of the rear boxes of No. 2 ammunition sleigh.

In consequence of the narrowness of the winter roads, it will generally be found impracticable to march with detachments in front, in rear, or in order of march, and for several reasons it is better that the men should march in rear of their respective sleighs.

COMING INTO ACTION.

No. 5 unhooks the swingletree, places it on the back of the near horse, then steps in and takes hold of the shafts on the near side; 4 takes hold of the shafts on the off side, and the two numbers lift them off, laying them gently on the ground; 3, as soon as he comes up, places the hook of the swingletree in the crupper ring, hook upwards. No. 1 gives the word "Drive On," when all is ready. In coming into action to the front, or to the right, the gun horses move to the right and form in rear. In action left they move to the right, and form in rear.

As it is impossible to reverse in deep snow, it is best, when it is intended to come into action for No. 1 ammunition sleigh to increase its distance.

It is conceived that with sleighs (at least, as at present constructed) the muzzle should be to the front in advancing and to the rear in retiring. Should, however, the commander wish to retire with muzzles front, the word of command would be "*Rear Limber Up—Muzzle Front.*"

On coming into action if the gun does not point in the proper direction it is brought round by the Nos. seizing the hooks on the front and rear of the sleigh. Nos. 1, 2, and 3 in front; 4 and 5 in rear, assisted if necessary by the higher Nos.

This is done by the Nos. who unhooked the shafts. The waggon sleighs (which in action are at the distance of ten yards from the gun) close up to three yards distance.

The recoil of guns on sleighs varies from four or five feet, when on rough ground or in deep snow, to twenty or thirty yards when on glare ice. In the latter case it is of course necessary to send the ammunition sleighs further to the rear; but the recoil may be considerably lessened by placing a small chain round each of the runners.

MARCHING ORDER.

In marching order the following stores and intrenching tools are on the gun sleighs: two fitting ropes, one spare swingletree; two swords on front platform under breast of gun, claw hammer, wrench and pincers; in sockets two portfire sticks on right rear of platform.

On No. 1 ammunition sleigh: two fitting ropes, prolonge, two spare swingletrees, and one sword on front part of platform; two carbines on front box; spare sponge and worm on platform right of boxes; spare handspike on left side; four spare traces between front and rear boxes; two swords on platform in rear of boxes, covered by four knapsacks. The knapsacks are strapped from off-handle of off-box to near handle of near box.

On No. 2 sleigh: felling axe and two camp kettles on front of platform; one sword on front box; pickaxe in rear of front box; four spades strapped to front of rear boxes; four water buckets strapped to guard-irons of front box, two at each side; two swords in rear of boxes, covered by four knapsacks.

MOVEMENTS.

Filing from column into line and from line into column, may be said to be almost the only movements which would ever be required from a battery on sleighs; but for the sake of exercise nearly all the movements which are made with wheel carriages may be made with sleighs.

SECTION 4.—DRILL WITH GATLING GUN.

PRELIMINARY REMARKS.

The following are the principal parts of the gun, viz. :—

Barrels.
Bolt, adjusting, main shaft.
Cartridge, shell extractor on hopper.
Chambers, barrel.
Cones and clamp for traversing worms.
Crank.
Crank rest with spring.
Crutch for traversing worm.
Crutch frame with socket and clamping screw.
Drum with divisions, weights, thumb piece, and locking clip.
Drum bucket.
Gun frame.
Hopper, with locking lever, steel catch.
Lock, consisting of { butt. / extractor. / firing pin. / hammer. / lock spring. / plunger.
Lock chamber.
Lock extractor with revolving catch attached by chain to cascable plate.
Lubricating holes.
Plates, front, rear, and cascable.
Shell driver.
Sights, fore and tangent.
Trunnion plate with locking bolt and notch.
Wheel, traversing, with spring regulator for adjusting amount of spread.
Worm, traversing.

No man should on any account get in front of the barrels when in action, as it is impossible to see whether the gun is loaded or unloaded.

Particular care should be taken that no mud or grit adheres to the cartridges or the base of the drum, as it may be carried into the hopper and interfere seriously with the working of the gun.

The crank should, as a rule, never be worked forward when the barrels are empty, the locks snapping are driven into the ends of the chambers, and the burr which they throw up causes a jam; dummy cartridges will be provided for drill.

If in firing a jam should occur, it may generally be referred to defective management of the drum; should this be the cause a few slight motions of the crank backwards and forwards will jerk the cartridges into their proper positions, and so remove the obstruction. In no case should the crank be driven forward with undue violence; whenever a jam, which cannot be rectified by working the crank as described, occurs, the crank should be locked in its rest, the hopper lifted, and the cause ascertained, the obstruction removed, and firing re-commenced. If it be not desirable to cease firing, the lock belonging to the barrel where the jam has occurred can be removed, and firing go on from the other barrels. If a cartridge splits and jams in a barrel, bring it opposite the extractor, open the hopper, and drive the cartridge back with the shell driver.

The barrels being numbered from 1 to 10, and the hopper marked when a miss-fire occurs, the barrel in which it happens can be identified by remembering that it fires when immediately under the frame on the right side, and that its number is two less than that at the mark on the hopper.

To extract a lock, add three to the number of the required lock and make the number so found correspond with the hopper mark, turn the extractor to the right until the projection comes opposite the slot, then draw it out as far as possible, turn it to the left until the notch in the shoulder clears the cascable, then draw it out; if the lock holds, the crank should be turned very gently backwards and forwards.

To replace a lock, push the lock nearly in, place the revolving catch of the extractor on the base, send it forward with the left hand, with the right moving the crank very gently backwards and forwards. When the catch of the extractor reaches the face of the breech, turn the extractor until it enters the slot, and the handle points downwards; move the crank two or three inches forward to see that all is clear.

TO ADJUST TRAVERSING MOTION.

A worm is attached to the end of the traversing bar for giving a certain amount of spread to the bullets whilst

firing. This amount will be determined by the officer commanding, who will give the word "*first, second, third, or fourth traversing motion,*" as the case may be. These will refer to the first, second, third, or fourth holes from the outer end of the worm. No. 1 raises the locking bolt out of the notch in the trunnion plate, and slides the traversing wheel into the proper position to give the desired motion, by pressing down the spring regulator on the wheel, and turning the crank one, two, three, or four revolutions, observing that the spring bolt snaps at the hole provided, he then slackens the clamping screw that holds the crutch, and raises the crutch with the left hand whilst with the right hand he gently moves the gun by the cascable until the crutch is pressed into the thread of the traversing worm, the clamping screw must then be tightened against the crutch; the traversing wheel can be turned by hand without moving the crank, and this may often be found the most convenient method. If the spring regulator is under the frame when adjustment is required, and it may be inconvenient or dangerous to move the crank, loosen the clamping screw of the worm, which will then turn freely in either direction; the crank may be turned a few times backwards, to ascertain that the gun traverses freely. The crutch must be well pressed into the bottom of the thread of the traversing worm, or it will jam.

After adjusting the motion it is easy to see whether it is sufficient to cover the object thoroughly by looking over the sights and working the handle a few times backwards.

After each adjustment of the traversing motion the gun must be laid afresh, as the original direction will have altered considerably; lay on the centre, right or left of the object as the crutch may happen to be in the centre, right or left of the worm; on the centre of the object, with the crutch in the centre of the worm, is the best.

If no traversing motion is required the locking bolt is left in the notch of the trunnion plate, and the crutch lowered.

To Unload the Chambers.

The chambers can be unloaded by raising the hopper, reversing the action of the crank, and taking out the cartridges by hand; it cannot, however, be done when the hopper is down.

To Fill the Drum.

The drum is divided into 16 compartments, each holding 15 cartridges. Invert the drum, unlock it, turn the bottom

plate until the hole comes directly over a compartment, raise the weight with the left hand, and fill in the cartridges regularly, the bullets being placed next to the centre of the drum, and the rims of the cartridges alternately on the right and left, in advance, and in rear of the previous cartridge, letting the weight down slowly until the compartment is filled. Repeat the operation until all the compartments are filled. Take care to lock the drum by turning the plate till the locking clip corresponds with a projection before placing it upright again. See that the handle is finally placed in a position parallel to a line joining the two clips; if this is done, and the thumb clip is always kept to the left in bringing the drum up to the gun, it will be in a convenient position for placing on the hopper. Greasing the cartridges slightly before using them will add greatly to the certainty and rapidity of the fire.

DRILL.

The detachment consists of one non-commissioned officer and four gunners, and falls in two deep in rear of the gun, which is unlimbered as in action (*for which operation, see page* 220).

TO TELL OFF.

Officer.	*No.* 1.
Tell off.	

The detachment is told off as for rifled M. L. guns.

TO TAKE POST AT THE GUN.

Officer.	*No.* 1.
Take post at the gun.	*Right turn.* *Double march.*

"*Take post at the gun,*" No. 1 gives the order "*Right turn,*" turns with the detachment, "*Double march,*" the whole double to their places as below detailed, and halt, facing to the front, No. 1 waiting till 3 has passed him.

POSITION AND GENERAL DUTIES.

No. 1. Stands on the right side of the centre of the trail, commands, places traversing lever, prepares the crank for firing, points and fires.

No. 2. Stands ten yards in rear of 3, whom he supplies with drums.

No. 3. Stands between the breech and wheel on the left side, places drums on the hopper, and attends to them.

No. 4. Stands on the off side of the splinter bar of the limber, supplies 2 with drums from 5.

No. 5. Stands on the near side of the splinter bar of the limber, and supplies 4 with drums.

ACTION.

Officer.	*No.* 1.
Range——yards.	*Action.*
——Traversing motion.	
Action.	

"*Action.*"—No. 1 puts up the lid of the right axletree box, turns back the traversing lever, places himself astride of the trail seat, detaches the crank from the rest and turns the rest under the frame, satisfies himself that everything is in working order, and adjusts the traversing worm if it is to be used; he also adjusts the tangent scale.

No. 2 receives a drum from 4, places it in the bucket, keeps it ready to hand to 3 when the drum on the gun is empty, taking care to keep the thumb clip always to the left, assists No. 1 to lay the gun with the traversing lever, resting the bucket with the drum on the ground during the time he is doing so.

No. 3 puts up the lid of the left axletree box, takes out the drum, places it on the pin in the centre of the hopper so that the projections on the base fit into the grooves, taking care that the thumb piece is to the left, and that the locking clip is not moved.

No. 4 puts up the lid of the off limber box, supplies 2 with drums from 5. If 2 is employed traversing, 4 serves the drum direct to 3.

No. 5 opens both limber boxes, puts up the lid of the near limber box, mounts on the footboard of the limber, and serves 4 with drums.

TO LAY THE GUN.

Officer.	*No.* 1.
	Trail right.
	„ left.
	Halt.

No. 1 sits on the seat of the trail, and having adjusted the tangent scale, looks over the sights, gives the necessary elevation with the elevating screw, and "*trail right or left,*" as may be required. If the traversing worm has to be altered, he adjusts it.

No. 2 standing at the end of the traversing lever moves the trail right or left as directed by No. 1, as soon as the laying is completed he resumes his position as in action.

COMMENCE FIRING.

Officer.	*No.* 1.
Commence firing.	*Commence firing.*

"*Commence firing.*"—No. 1 grasps the crank handle with his right hand back up, and as soon as the cartridges drop from the drum into the hopper, turns the handle from him, looking carefully over the sight.

No. 3 with his right hand throws back the locking clip of the drum, and with the thumb of his left hand against the thumb piece, and forefinger against a tongue of the drum, turns the drum smartly until the two are in a line. As the firing goes on he watches that the weight resting on the cartridges follows them closely in their descent, assisting it if it shows any signs of sticking; as soon as the weight rests on the bottom of the groove he waits for one shot, and then turns the drum as before, no time being lost in performing this operation; when the last division but one is empty, 3 gives "*Drum.*"

DRUM.

Officer.	*No.* 3.
	Drum.

No. 2 places himself on the right of 3, placing the bucket with the full drum on the ground, disengaging the straps, receives the empty drum, places it in the bucket, doubles to the limber and exchanges it for a full one, and proceeds as in "*Action.*"

No. 3, when the drum is empty, lifts it off the pin, hands it to 2, lifts the full one, places it on the hopper as at "*Action,*" and proceeds at once as in "*Commence firing.*"

No. 4 exchanges drums with 2, hands the empty one to 5, and receives a full one in exchange.

No. 5 replaces the empty drum and gets out a full one for 4

CEASE FIRING.

Officer.	*No.* 1.
Cease firing.	*Cease firing.*

"*Cease firing.*"—The division of the drum in use should if possible be emptied by firing, as well as any cartridges that may be in the chambers. This can be ascertained by turning the crank until firing is stopped.

No. 1 puts down his tangent scale, and if necessary places the locking catch in the notch of the trunnion plate, he places the crank handle in the rest, which he draws out from under the frame.

No. 2 hands the full drum to 3, who places it in the axletree box, thumb clip in left rear corner.

No. 3, after placing the full drum in the off axletree box, turns to his front.

No. 4 hands the full drum to 5, and falls in as at "*Action.*"

No. 5 replaces the full drum, comes down from the footboard and falls in as for "*Action.*"

PREPARE TO LIMBER UP.

Officer.	*No.* 1.
Prepare to limber up.	*Prepare to limber up.*

"*Prepare to limber up.*"—No. 1 rises from the seat, throws forward the traversing lever with his left hand, raising the trail seat with his right hand for it to pass under.

No. 3 lifts the drum off the hopper, gives it to 2 who takes it to the rear and returns it to 4.

Nos. 4 and 5 shut down the lids of the limber boxes on their own sides.

TO CHANGE ROUNDS.

Officer	*No.* 1.
Change rounds.	*Change rounds.*

In changing rounds in action, No. 1 becomes 5; 5, 4; 4, 2; 2, 3; 3, 1.

In changing rounds when the gun is limbered up, No. 1 becomes 5; 5, 3; 3, 2; 2, 4; 4, 1.

TO LIMBER UP.

Officer.	*No.* 1.
Front limber up.	*Front limber up.*
Right „	*Right* „
Left „	*Left* „
Rear „	*Rear* „
	Halt „

As with rifled M. L. field guns, except that No. 1 only is required at the trail and keys up. When the ground will permit the gun is taken to the limber. In heavy ground it must be limbered up in the ordinary way.

TO UNLIMBER.

Officer.	*No.* 1.
Action front.	*Action front.*
„ *right.*	„ *right.*
„ *left.*	„ *left.*
„ *rear.*	„ *rear.*

As with rifled M. L. field guns, except the limbers after going to the rear do not reverse. When there are no horses, 4 in the shafts, 5 at point of off shaft.

POSITION OF DETACHMENT WHEN LIMBERED UP.

As with rifled M. L. field guns.

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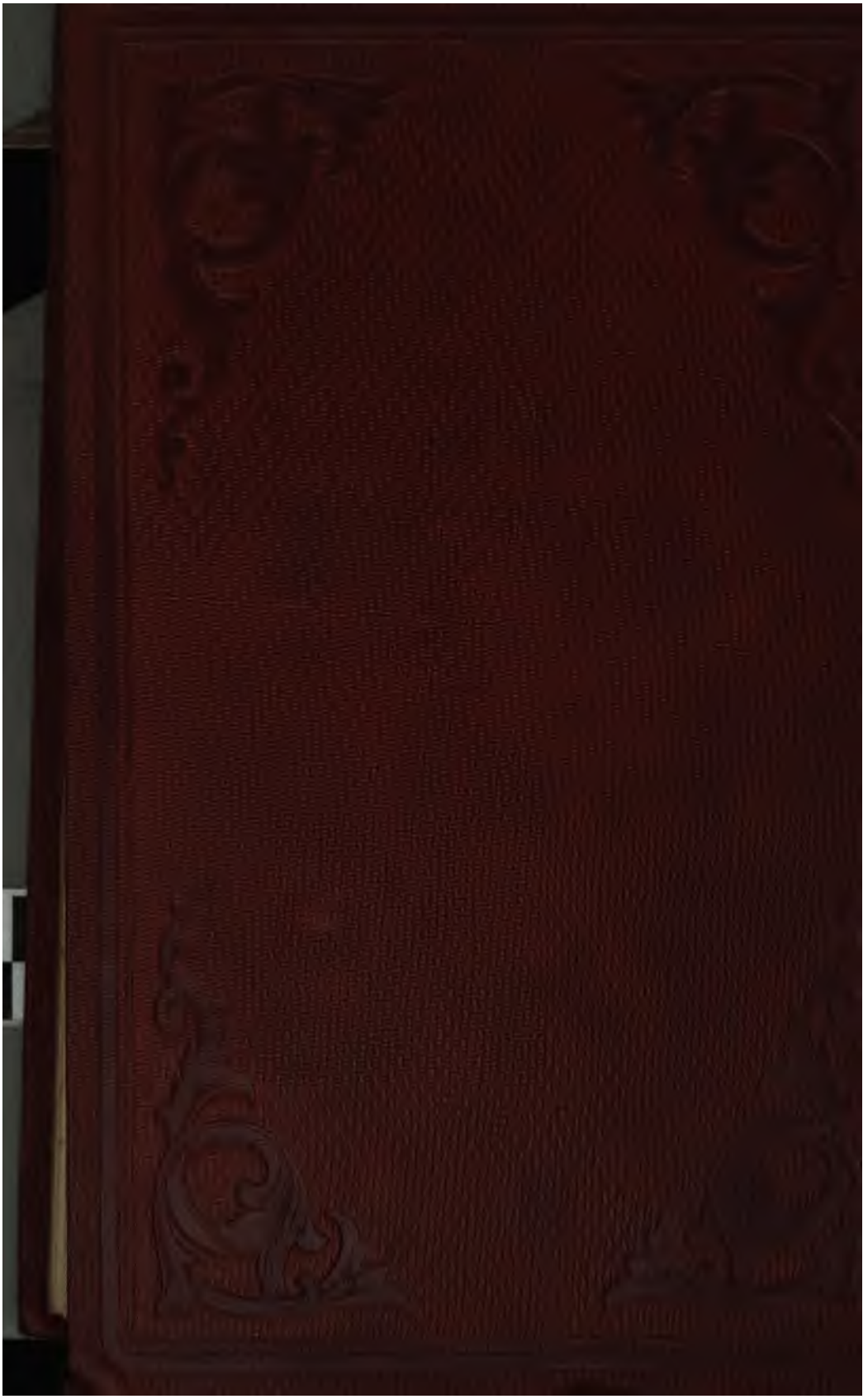
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